

# OVERSIGHT OF THE NUCLEAR REGULATORY COMMISSION

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## JOINT HEARING

BEFORE THE

SUBCOMMITTEE ON ENERGY AND POWER

AND THE

SUBCOMMITTEE ON ENVIRONMENT AND THE  
ECONOMY

OF THE

COMMITTEE ON ENERGY AND  
COMMERCE

HOUSE OF REPRESENTATIVES

ONE HUNDRED FOURTEENTH CONGRESS

FIRST SESSION

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SEPTEMBER 9, 2015

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<sup>2</sup>Ms. Svinicki, Mr. Ostendorff, and Mr. Baran did not submit statements for the record.



# OVERSIGHT OF THE NUCLEAR REGULATORY COMMISSION

WEDNESDAY, SEPTEMBER 9, 2015

HOUSE OF REPRESENTATIVES,  
SUBCOMMITTEE ON ENERGY AND POWER  
JOINT WITH THE  
SUBCOMMITTEE ON ENVIRONMENT AND THE ECONOMY,  
COMMITTEE ON ENERGY AND COMMERCE,  
*Washington, DC.*

The subcommittees met, pursuant to call, at 10:07 a.m., in room 2123, Rayburn House Office Building, Hon. John Shimkus (chairman of the Subcommittee on Environment and the Economy) presiding.

Members present: Representatives Whitfield, Shimkus, Harper, Olson, Barton, Murphy, Latta, McKinley, Kinzinger, Johnson, Long, Ellmers, Bucshon, Flores, Mullin, Hudson, Upton (ex officio), McNerney, Tonko, Green, Capps, Castor, Sarbanes, Welch, Loebsock, and Pallone (ex officio).

Staff present: Gary Andres, Staff Director; Will Batson, Legislative Clerk; Leighton Brown, Press Assistant; Allison Busbee, Policy Coordinator, Energy and Power; Tom Hassenboehler, Chief Counsel, Energy and Power; A.T. Johnston, Senior Policy Advisor; Dave McCarthy, Chief Counsel, Environment and the Economy; Chris Sarley, Policy Coordinator, Environment and the Economy; Dan Schneider, Press Secretary; Peter Spencer, Professional Staff Member, Oversight; Andy Zach, Counsel, Environment and the Economy; Christine Brennan, Democratic Press Secretary; Jeff Carroll, Democratic Staff Director; Jacqueline Cohen, Democratic Senior Counsel; Tiffany Guarascio, Democratic Deputy Staff Director and Chief Health Advisor; Rick Kessler, Democratic Senior Advisor and Staff Director, Energy and Environment; and Alexander Ratner, Democratic Policy Analyst.

Mr. SHIMKUS. I ask my colleagues to take their seats, and I am going to call the Joint Subcommittee on the Environment and the Economy and Energy and Power to order. And I would like to recognize myself for 5 minutes for an opening statement, which I will share with Chairman Whitfield.

## OPENING STATEMENT OF HON. JOHN SHIMKUS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ILLINOIS

Thank you for attending this morning's hearing to discuss the Nuclear Regulatory Commission. The NRC is responsible for licensing and regulation of our fleet of nuclear power plants as well as management of nuclear materials which impact our lives daily.

This is a critical responsibility and our congressional oversight of the Commission is vital.

My home State of Illinois generates the most nuclear energy in the country. However, the State's nuclear power generation faces strong economic challenges. With low-cost natural gas and minimal growth in electricity demand, I am concerned that the economic impact associated with an increasing price of regulatory compliance will disproportionately affect those economically distressed nuclear power plants.

The nuclear industry's cost of complying with regulatory action has doubled over the last 10 years. The cost of compliance results from a layering of regulatory actions on nuclear power plants which become more burdensome. I am pleased the NRC recognizes the need to consider the regulatory impact on licensees and minimize the cumulative effect of regulation.

I commend Chairman Burns for acknowledging this principle in a recent vote on containment protection rulemaking. Your vote to supply the policy, and I quote, "most in line with the Agency's efforts to reduce the cumulative effects of regulation in which there is little to no additional safety benefit to be gained by proceeding" deserves recognition.

In addition to reducing the cumulative effects of regulation, the nuclear industry needs certainty in interacting with a reliable and efficient regulator. NRC must assure its actions are clearly justified, and NRC staff follows established processes which adhere to NRC's principles of good regulation.

I look forward to hearing from the Commission other proposals for NRC to improve the efficiency in which it functions as a regulator. Used fuel management continues to remain the top priority for this committee. Proceeding with a permanent repository, Yucca Mountain maintains strong bipartisan support. I applaud NRC staff for recently releasing the draft supplemental environment impact statement on potential groundwater impacts for Yucca Mountain. The draft—environmental impact statement, again, verifies the repositior can safely operate for 1 million years and affirms the site is the best solution to permanently dispose of spent nuclear fuel. The Federal Government's inability to fulfill its legal obligations established by the Nuclear Waste Policy Act continues to increase every year Yucca Mountain is delayed. The NRC and Department of Energy must resume consideration of the Yucca Mountain license application and reach a final decision whether the site, as science has indicated, can safely store spent nuclear fuel.

In upcoming months, we consider other important components of a used fuel management system, issues such transportation, benefits for host States and communities, the role of consolidated interim storage and linked to a long-term repository, and system of budgeting and funding challenges should be thoughtfully examined to inform used fuel legislation.

I look forward to hearing from the Commissioners today, and I thank you for your service.

[The prepared statement of Mr. Shimkus follows:]



## PREPARED STATEMENT OF HON. JOHN SHIMKUS

Thank you for attending this morning's hearing to discuss the Nuclear Regulatory Commission (NRC). The NRC is responsible for licensing and regulation of our fleet of nuclear power plants, as well as management of nuclear materials which impact our lives daily. This is a critical responsibility and our Congressional oversight of the Commission is vital.

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I commend Chairman Burns for acknowledging this principle in a recent vote on containment protection rulemaking. Your vote to support the policy "most in line with the agency's efforts to reduce the cumulative effects of regulation" in which "there is little to no additional safety benefit to be gained by proceeding" deserves recognition.

In addition to reducing the cumulative effects of regulation, the nuclear industry needs certainty in interacting with a reliable and efficient regulator. NRC must assure its actions are clearly justified and NRC staff follows established processes, which adhere to NRC's Principles of Good Regulation. I look forward to hearing from the Commission other proposals for NRC to improve the efficiency in which it functions as a regulator.

Used fuel management continues to remain a top priority for this committee. Proceeding with a permanent repository at Yucca Mountain maintains strong bipartisan support. I applaud NRC staff for recently releasing the draft supplemental environmental impact statement (SEIS) on potential groundwater impacts for Yucca Mountain. The draft SEIS again verifies the repository can safely operate for 1 million years and affirms the site is the best solution to permanently dispose of spent nuclear fuel. The Federal Government's inability to fulfill its legal obligations established by the Nuclear Waste Policy Act continues to increase every year Yucca Mountain is delayed. The NRC and Department of Energy must resume consideration of the Yucca Mountain license application and reach a final decision whether the site, as science has indicated, can safely store spent nuclear fuel.

In upcoming months we will consider other important components of a used fuel management system. Issues such as transportation, benefits for host States and communities, the role of consolidated interim storage, and system budgeting and funding challenges should be thoughtfully examined to inform used fuel legislation.

I look forward to hearing from the Commissioners today, and thank you for your service.

Mr. SHIMKUS. And with that, I yield to the gentleman from Kentucky.

**OPENING STATEMENT OF HON. ED WHITFIELD, A REPRESENTATIVE IN CONGRESS FROM THE COMMONWEALTH OF KENTUCKY**

Mr. WHITFIELD. Thank you very much, Chairman Shimkus. And I want to thank the Commissioners for being with us today. We genuinely appreciate your being here and the job that you do.

I think it is quite clear that the NRC does have a reputation of a gold standard since its establishment over 40 years ago in 1975. Your reliance on the principles of good regulation, independence, openness, efficiency, clarity, and reliability are the foundation of its credibility and as it protects public health and safety through licensing and regulation of nuclear power plants.

However, proposed regulatory actions such as the mitigation beyond design basis and the containment protection rulemaking re-

cently threatened, in some of our views, to deviate from these principles, and potentially diminish the Commission's credibility.

In fact, I sent a letter with Chairman Upton expressing concerns over the inappropriate use of qualitative factors by the NRC to justify rulemakings in the absence of any quantitative cost benefit justification. We have not received a response yet from the Commission about that.

It has been encouraging that the Commission recognized the need to ensure that regulatory requirements are appropriately justified, and that the Commission adhere to its regulatory framework and uphold the principles of good regulation, as Commissioner Ostendorff highlighted recently.

We are, of course, concerned also about appropriately aligning NRC's budget and staffing levels with the organization's workload, which has changed dramatically over the last number of years. So we look forward to your testimony and your insights, and thank you once again for joining us. And my time is expired.

[The prepared statement of Mr. Whitfield follows:]

#### PREPARED STATEMENT OF HON. ED WHITFIELD

Good morning and welcome to this morning's hearing with the Nuclear Regulatory Commission (NRC). I want to thank the Commissioners for being here with us today.

The NRC's reputation as the "gold standard" nuclear regulator was established over the 40 years since its creation in 1975. The Commission's reliance on its principles of good regulation—independence, openness, efficiency, clarity, and reliability—are the foundation of its credibility as it protects public health and safety through licensing and regulation of nuclear power plants. This reputation was well-earned, even as the industry experienced milestone events such as the nuclear emergency at Three Mile Island and the terrorist attacks of September 11th.

However, proposed regulatory actions such as the mitigation-beyond-design-basis and the containment protection rulemaking recently threatened to deviate from these principles and potentially diminish the Commission's credibility. In fact, I had sent a letter with Chairman Upton expressing concerns over the inappropriate use of "qualitative factors" by the NRC to justify rulemakings in the absence of any quantitative cost-benefit justification. Unfortunately, we have not yet received a response from the Commission.

It was therefore encouraging that the Commission recognized the need to ensure that regulatory requirements are "appropriately justified" and that the Commission "adhere to its regulatory framework and uphold the principles of good regulation," as Commissioner Ostendorff highlighted.

I also appreciate the Commission's commitment to serve as a reliable regulator by resolving actions in a timely manner. Both the NRC and the nuclear industry responded to the 2011 accident at the Fukushima plant in Japan with a robust reexamination of safety, emergency preparedness and have reinforced our confidence in the safe operation of our nuclear power plants. The Commission's direction to develop a plan to now resolve the remaining post-Fukushima recommendations is an appropriate step to providing reliability in the regulatory regime.

I am concerned about the need to appropriately align NRC's budget and staffing levels with the organization's workload. Over the previous 10 years, NRC's budget, staff, and backlog of licensing actions have steadily increased while the number of operating reactors and total licensing actions has decreased. These trends are troubling and are not indicative of an organization committed to efficiency. The NRC now has a number of initiatives underway to examine the cause of these trends and recommend a strategy to improve performance. I look forward to hearing how the Commission will consider these efforts in an effort to improve the organization's efficiency.

Thank you again for appearing before us today, and I look forward to hearing your testimony.

Mr. SHIMKUS. I thank my colleague, and now I recognize the ranking member of the subcommittee, Mr. Tonko, for 5 minutes.

**OPENING STATEMENT OF HON. PAUL TONKO, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW YORK**

Mr. TONKO. Thank you, and good morning. I thank Chair Shimkus and Chair Whitfield for holding this hearing, and certainly to Chairman Burns and Commissioner Svinicki and Commissioner Ostendorff and Commissioner Baran, thank you for appearing before the subcommittee today.

And, Commissioner Baran, congratulations on your new position with the Commission. It is great to see you again here at the committee in a new role.

The electric utility sector is undergoing significant changes, and the nuclear power industry certainly is affected by these given changes. The utility model that has prevailed for over the past century is now in great midst of change. Overall electricity demand is stable; power plants have aged; new technologies and markets are changing grid management; renewable power has grown; and the relationship between utilities and their customers is, indeed, changing.

Policies to encourage greater energy efficiency and lower emissions are also important factors, along with the expansion in domestic natural gas supplies. And we are experiencing shifts in weather and climate. All of these factors are working together to reshape this vital sector of our economy.

Chairman Burns' testimony includes some statistics that illustrate the current situation for nuclear power. Five reactors began the process of decommissioning, and 14 others are in some stage of that process. Economic conditions may result in additional plants being shut down. These retirements are not being offset with any new units. Chairman Burns' testimony cites five new plant authorizations and another six active applications for new licenses. In some areas, similar trends can be seen for older coal and oil-fueled generation.

The nuclear industry also continues to face the difficult problem of waste disposal. We still have not resolved this issue, and I believe that an exclusive focus on the Yucca Mountain facility will not provide the comprehensive solution that we need and that we deserve. Nuclear power still accounts for a significant amount of our baseload generation. And in some areas, it plays an important role in the mix of power supply and to ensure, indeed, reliability.

But for nuclear power to continue as a viable power generation option, we need to look beyond the traditional policy framework that has been with us for decades and consider how nuclear power will best fit into the new grid and sector structures that are emerging.

One thing, however, has not changed: The need for strong safety standards and rigorous enforcement of those standards. The Commission's role in regulating this industry is crucial to public safety and to the future of this industry. The industry clearly is facing some economic challenges, but these challenges cannot and should not be overcome by sacrificing safety. This is an interesting and challenging time for the nuclear power industry and for the Com-

mission. And I look forward to hearing from all of our witnesses today about the Commission's efforts to guide the nuclear industry through its transition that is underway.

Again, I thank all of you for appearing before the panel here today, and I yield back the balance of my time, Mr. Chair.

Mr. SHIMKUS. Gentleman yields back the balance of his time.

The Chair is looking for the chairman of the full committee, but he is going to submit his opening statement for the record.

Does anybody on the majority side seek time for an opening statement?

Anyone on the minority side?

Chair recognizes ranking member of the full committee Mr. Pallone for 5 minutes.

**OPENING STATEMENT OF HON. FRANK PALLONE, JR., A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW JERSEY**

Mr. PALLONE. Thank you, Mr. Chairman. I want to thank the ranking members as well for holding this hearing.

This is a critical moment in time for the nuclear industry and its regulators. The Commission should be commended for its ongoing efforts to adapt the size and structure of the NRC to today's regulatory realities. And it is clear that moving towards a safe, efficient, and modern nuclear fleet should be an important part of our Nation's effort to combat climate change. And that is why I am pleased to see progress is being made on the construction and licensing of the first four new commercial power reactors in decades. Advancements in nuclear technology, particularly in the area of small modular reactors, hold the possibility of a newer safer generation of nuclear power.

However, nuclear power and technology still have challenges to overcome. For new reactors, the test is to show that such units can be brought online in a timely and cost-effective manner; a question that, for now, remains unanswered.

For existing units, it is critical that they be able to meet the safety needs of a post-Fukushima world, the security challenges of a post-9/11 world, and the financial requirements of a market characterized by some of the lowest natural gas and renewable prices in recent history.

We also still need to address the storage and disposal of nuclear waste and the rapidly accelerating phenomena of decommissioned units. I believe there is an important role for nuclear energy to play in addressing global climate change, but I want to make perfectly clear that safety must come first. I am, therefore, both interested and concerned about recent votes by the Commission to reject the recommendation of the NRC's professional staff with regard to certain post-Fukushima safeguards. In no way, shape, or form can safety take a backseat to cost or competitive pressures, and that would be a recipe for disaster.

So the job of the Commission is to regulate nuclear power for the benefit of all Americans, not just one industry or sector. So we must work together to find a way forward for nuclear energy without sacrificing safeguards.

And, again, I thank the Commissioners for coming today and look forward to their testimony. Thank you, Mr. Chairman.  
[The prepared statement of Mr. Pallone follows:]

PREPARED STATEMENT OF HON. FRANK PALLONE, JR.

I want to thank the subcommittee chairmen and ranking members for holding this Nuclear Regulatory Commission oversight hearing. Welcome Chairman Burns, Commissioners Svinicki and Ostendorff, and welcome back to the committee Commissioner Baran.

This is a critical moment in time for the nuclear industry and its regulators. The Commission should be commended for its ongoing efforts to adapt the size and structure of the NRC to today's regulatory realities.

And it's clear that moving toward a safe, efficient and modern nuclear fleet should be an important part of our Nation's effort to combat climate change. That is why I'm pleased to see progress is being made on the construction and licensing of the first four new commercial power reactors in decades. Advancements in nuclear technology, particularly in the area of small modular reactors, hold the possibility of a newer, safer generation of nuclear power.

However, nuclear power and technology still have challenges to overcome. For new reactors, the test is to show that such units can be brought online in a timely and cost effective manner—a question that, for now, remains unanswered. For existing units, it's critical that they be able to meet the safety needs of a post-Fukushima world, the security challenges of a post-9/11 world, and the financial requirements of a market characterized by some of the lowest natural gas and renewable prices in recent history. We also still need to address the storage and disposal of nuclear waste and the rapidly accelerating phenomenon of decommissioned units.

As I stated previously, I believe there is an important role for nuclear energy to play in addressing global climate change, but I want to make perfectly clear that safety must come first. I am, therefore, both interested in and concerned about recent votes by the Commission to reject the recommendations of the NRC's professional staff with regard to certain post-Fukushima safeguards. In no way, shape or form can safety take a back seat to cost or competitive pressures. That would be a recipe for disaster. The job of the Commission is to regulate nuclear power for the benefit of all Americans, not just one industry or sector, so we must work together to find a way forward for nuclear energy without sacrificing safeguards.

Again, I want to thank the Commissioners for coming today, and I look forward to hearing the testimony.

Mr. SHIMKUS. The gentleman yields back his time.

The Chair now would like to welcome the full—well, the NRC Commission as presently seated, and recognize Chairman Burns for a 5-minute opening statement.

**STATEMENTS OF STEPHEN G. BURNS, CHAIRMAN, NUCLEAR REGULATORY COMMISSION; KRISTINE L. SVINICKI, COMMISSIONER, NUCLEAR REGULATORY COMMISSION; WILLIAM C. OSTENDORFF, COMMISSIONER, NUCLEAR REGULATORY COMMISSION; AND JEFF BARAN, COMMISSIONER, NUCLEAR REGULATORY COMMISSION**

**STATEMENT OF STEPHEN G. BURNS**

Mr. BURNS. Thank you, Chairman Shimkus and Chairman Whitfield and Ranking Member Tonko and members of the subcommittee. I appreciate the opportunity to appear before you today to discuss NRC licensing and regulatory activities.

Just as we did 40 years ago when the agency first began operation, NRC finds itself in a changing environment. Over the past 15 years, the NRC grew to meet a variety of challenges. In response to industry's announced plans in the early 2000's to construct a new fleet of reactors, the NRC recruited staff and restruc-

tured the agency's licensing organization for reactors. The NRC needed additional resources following the terrorist attacks of September 2001, with a focus on security, safeguards, and emergency preparedness. And also affecting agency priorities were the implementation of safety enhancements as a result of the March 2011 accident at the Fukushima Dai-ichi nuclear power station in Japan, as well as the unexpected decommissioning of several reactors before the end of their licensing term.

It is a different picture today, particularly in the new reactor area. The projected workload has scaled back, with now only six applications remaining active out of the 18 combined license applications that were filed.

The Commission, in acknowledging these changing priorities, recently endorsed a number of recommendations from our staff on changes the agency could make now, and over the next 5 years to its structure, workforce, and regulatory processes. While these efforts are ongoing, the Commission will continue to emphasize both the importance of our safety and security mission and the excellence with which we strive to achieve it.

After the Fukushima Dai-ichi accident, the NRC assessed the significance of the event for the U.S. nuclear fleet, and developed with industry and stakeholder comment proposed actions to enhance the safety of plants in the United States. We have been diligent in ensuring that priority is given to implementation of the most safety-significant of the post-Fukushima enhancements, and most licensees will complete the majority of the high priority enhancements by the end of 2016. And this is a significant achievement.

In the rulemaking area, the Commission recently directed the staff to provide a proposal for increasing the Commission's involvement in the early stages of the rulemaking process. The staff's proposal is due to the Commission by mid October. The agency's use of quantitative and qualitative factors in regulatory decision making has been of high interest to stakeholders in recent years, and I acknowledge the committee's interest, as demonstrated by the letter we received, and you will be receiving an answer in the near future.

The Commission recently approved the staff's plans for updating guidance using the—regarding the use of qualitative factors to improve the clarity, transparency, and consistency of the agency's regulatory and back-fit analyses.

Finally, I want to note in the area of advanced reactors, being prepared to evaluate potential applications for light water-based small modular reactors and non-light water reactor technologies presents some challenges to the NRC. But we are prepared to receive and review any such applications under our existing framework. The NRC expects to begin reviewing one small modular reactor design application in late 2016. Our current licensing framework is adequate for conducting reviews of the advanced reactor application, but we recognize that some work needs to be done with respect to establishing acceptance criteria for non-light water technologies. Within the constraints of our budget, the agency is working on advanced reactor activities with the Department of Energy,

industry standard-setting organizations, and with the Generation IV International Forum.

In conclusion, the NRC, through its long history, has been a responsible regulator. Our staff have always represented the best of the best in terms of competence, professionalism, and dedication to the agency's mission to protect public health and safety and the common defense and security. The world at large often looks to the NRC as a standard for nuclear regulation. We are reshaping the agency to meet the changing environment in which we find ourselves, while retaining the right skill sets to fulfill our unchanging and challenging safety and security mission.

I thank you and I will be pleased to answer your questions.  
[The prepared statement of Mr. Burns follows:]

**STATEMENT OF STEPHEN BURNS, CHAIRMAN  
U.S. NUCLEAR REGULATORY COMMISSION**

**BEFORE THE**

**HOUSE COMMITTEE ON ENERGY AND COMMERCE  
SUBCOMMITTEE ON ENERGY AND POWER, AND  
SUBCOMMITTEE ON ENVIRONMENT AND THE ECONOMY**

**SEPTEMBER 9, 2015**

Chairmen Whitfield and Shimkus, Ranking Members Rush and Tonko, and members of the Subcommittees, thank you for the opportunity to appear before you to discuss NRC licensing and regulatory activities.

Just as we did 40 years ago, when the agency first began operation as the newly created U.S. nuclear safety regulator, the NRC finds itself in a changing environment. In emerging as one of the successor agencies to the Atomic Energy Commission, the NRC had approximately 2,000 employees to plan for or review new plant orders that were being announced or applications submitted by the industry on a nearly weekly basis. At the time, 180 reactors were either under construction or in the planning phase. To review these new plant applications and carry out our mission as the independent regulator for the safety and security of reactors, radioactive materials, and nuclear waste management, the NRC built a workforce with expertise across a broad spectrum of technical and scientific disciplines. But even as the agency's budget and staffing levels increased to match the anticipated licensing demands, the industry's plans fluctuated due to double-digit inflation, a projected slowdown in electric power demand and the Three Mile Island accident. By the end of 1980, scores of planned reactors had been deferred or canceled.



The business environment in the nuclear industry today – and the NRC’s response to it – has parallels to these earlier times. In response to the industry’s announced plans in the early 2000s to construct a new fleet of reactors, the NRC aggressively recruited staff and restructured the agency’s licensing organization for reactors – creating the Office of New Reactors and a new construction inspection division in the Region II office. The NRC took these steps to ensure that the safety, security, and emergency preparedness of the operating units would continue without interruption as the agency reviewed new plant designs and reactor license applications. At the peak of the industry’s projections in 2008, the NRC was increasing staffing levels to accommodate up to 23 combined license applications for construction and operation of a total of 34 new reactors. The NRC also had received or was expecting applications for four early site permits and four standardized plant design certifications beyond the one design certification already issued.

It is a different picture today. Now, only six applications remain active out of the 18 combined license applications that were filed. Thus, far, the NRC has issued combined licenses authorizing the construction and operation of five units, and expects to make licensing decisions on several more in the coming year. The agency currently has two early site permit requests, two standardized plant design certifications, and two design certification renewals under review. In late 2016, the agency also expects to receive a small modular reactor design certification application and an application for an early site permit for a small modular reactor. The agency also is now reviewing two construction permit applications for facilities that would produce medical isotopes and expects to make a licensing decision on this application early next year; the nation currently has no such facility and is dependent on imports.

However, the anticipated new reactor work was not the only reason why the NRC needed additional resources. Following the terrorist attacks of September 11, 2001, there was a greater focus on security, safeguards, and emergency preparedness. Work on license renewals, power uprates, and the Yucca Mountain high-level waste repository application precipitated an increased need for resources. Also affecting agency priorities were the significant impacts from the implementation of safety enhancements as a result of lessons learned from the March 2011 accident at the Fukushima Dai-ichi nuclear power station in Japan, the unexpected decommissioning of several reactors before the end of their licensing term, and the shift in nuclear materials work, propelled by an increase in licensing activities related to uranium recovery facilities.

Throughout all of the challenges the NRC has faced through its long history, one thing has always been consistent: the NRC has always been a responsible regulator. The agency's staff have always represented the best-of-the-best in terms of its competence, professionalism and dedication to the agency's mission to protect the public health and safety. The world at large often looks to the NRC as the standard for nuclear regulation. In my testimony today, I plan to highlight the ways in which the NRC continues to demonstrate its responsibility and maintain its respected status.

#### **Changing Priorities**

The agency recognizes that with the changing environment it needs to prepare for a future with a reduced workload. In mid-2014, NRC proactively tasked an internal team of senior staff, managers, and experts to develop recommendations on changes the agency could make over the

next five years to its structure, workforce and regulatory processes. The Project Aim 2020 initiative resulted in a number of recommended strategies to streamline processes, reduce the size of the workforce, and improve the effectiveness and timeliness of regulatory decision-making. The Commission directed the staff in June to reassess the agency's workload and to prioritize activities that could be reduced or eliminated. The staff submitted several papers to the Commission in late August regarding its efforts, and a public Commission meeting was held just yesterday to discuss these efforts.

A central element of the Project Aim effort is the re-baselining process outlined in a paper the staff submitted to the Commission last month. In its direction to staff, the Commission made clear that this process should focus in large part on identifying what work is most critical to the safety and security mission of the agency, and on identifying activities that can be shed, de-prioritized, or performed with a less intense resource commitment. In its paper to the Commission, the staff has proposed a plan for undertaking this effort. I want to emphasize that the agency has taken this effort seriously, and has aggressively sought input on the re-baselining effort not only internally, but from external stakeholders as well. In fact, the NRC held a public meeting to solicit feedback on September 1.

The goal of Project Aim is to establish an organizational structure that improves the NRC's ability to plan and execute our mission while being more responsive to changes in the industry. But that effort must be undertaken in a way that ensures the agency retains its ability to carry out its safety and security mission. Over the years, the NRC acquired expertise in mission-critical areas such as nuclear, chemical, structural, and fire protection engineering; health physics and

physical science; earth sciences including hydrology, meteorology, seismology, and geology; economics; information technology systems; and computer and physical security, among others. The NRC currently has approximately 3,700 employees. This is down from a peak of about 4,000 employees in fiscal year 2010. Under Project Aim, we have set a staffing target of 3,600 employees by the end of fiscal 2016 – being mindful to retain the knowledge of our specialty area experts.

While the restructuring is ongoing, the Commission will continue to emphasize both the importance of our mission and the excellence with which we achieve it. Our success is largely due to the dedicated, highly trained, and knowledgeable NRC staff. It is the staff's professionalism and commitment to maintaining the safe and secure use of nuclear materials and facilities that has established NRC's worldwide reputation as a strong, independent, and competent regulator.

#### **Fukushima-Related Safety Activities**

After the Fukushima Dai-ichi nuclear power plant accident in 2011, the NRC took swift, decisive action to assess the significance of the event for the U.S. nuclear fleet, and imposed reasonable implementation time frames for action. We have been diligent in ensuring that the most safety significant of the post-Fukushima enhancements have been prioritized and implemented. Most licensees will complete the majority of the highest priority enhancements by the end of 2016. This will be a significant achievement. The NRC and the industry anticipate completing the implementation of nearly all lessons-learned safety enhancements from the Fukushima accident on, or ahead of, the established schedules.

You will recall just two weeks after the accident at Fukushima Dai-ichi, the Commission directed a task force of senior NRC staff members to make recommendations for strengthening safety at U.S. nuclear power plants, and the Near-Term Task Force provided a preliminary, first-cut set of 12 recommendations after a 90-day review. Those recommendations became the starting point for a more in-depth assessment that considered input from the public, stakeholders, additional NRC staff members, and the Commission. The result of the more detailed assessment was prioritization of work, which was implemented through a series of NRC orders, requests for information, and rulemaking.

The highest-priority work focused on the following items: strategies for mitigating impacts of events that are beyond those the plant was originally designed to withstand; improved instruments for measuring the water level in spent fuel pools; seismic and flooding walk downs (visual inspections); updated reevaluations of flooding and earthquake hazards at each site; severe-accident capable vents for BWR reactors with Mark I and II containments (similar types of containments to those at the Fukushima station); and enhancements to emergency preparedness communications and staffing. These safety enhancements will substantially improve the already robust prevention, mitigation, and emergency response capabilities of U.S. nuclear power plants and provide further assurance that these plants can effectively cope with extreme natural hazards or other events.

The NRC technical staff is currently reevaluating the plans for the remaining longer-term or lower-priority recommendations and will provide a paper to the Commission later this year. Some of those recommendations have been subsumed into ongoing or completed work, and other

recommendations, upon reevaluation, may be found not to provide the sufficient, substantial safety enhancements that would merit further regulatory action.

#### **Rulemaking Process and Other Regulatory Improvements**

The Commission is making a concerted effort to improve the effectiveness and efficiency of its regulatory processes. The Commission recently directed the staff to provide a proposal for increasing the Commission's involvement in the rulemaking process. The goal of this effort is for the Commission to be more involved during early stages of the rulemaking process before significant agency resources are expended. The staff's proposal, due by mid-October, will include a recommendation for whether to reintroduce Commission approval of the "Rulemaking Activity Plan," as was the practice in the late 1990s and early 2000s, as well as whether to increase the role of the Committee to Review Generic Requirements.

Separately, the agency has been examining ways over the past several years to mitigate the cumulative effects of regulations and to improve its assessment of benefits, costs, and timing associated with implementation of new regulations. The NRC staff has implemented several rulemaking procedures to improve consideration of the cumulative effects of regulations, which allows increased public input through all phases of the rulemaking process and provides an opportunity for the regulated community to provide feedback about potential adverse impacts from the implementation of the proposed new requirements. The agency also has issued guidance documents in support of proposed new requirements and sought input on proposed implementation dates for new requirements. In addition, the agency has engaged with the industry to develop more accurate cost estimates of new requirements, since these estimates

inform the agency's decision about whether and how to pursue new requirements. The NRC continues to look at ways to expand these efforts beyond the rulemaking process. The goal is to consider our requirements in a holistic manner to ensure that the totality of what we are requiring of our licensees is not unintentionally having a detrimental effect on safety by distracting licensees from the most critical safety activities.

The agency's use of quantitative and qualitative factors in its regulatory decision-making has been of high interest to stakeholders in recent years. I acknowledge this Committee's interest as demonstrated by the letter we recently received related to two rulemaking activities: Mitigation of Beyond Design Basis Events and Containment Protection and Release Reduction. I note that for both items, the Commission recently directed the staff to discontinue further rulemaking efforts that might ultimately have been justified mainly based on the consideration of qualitative factors. The Commission recently approved the staff's plans for updating guidance regarding the use of qualitative factors to improve the clarity, transparency, and consistency of the agency's regulatory and backfit analyses.

Specifically, the updated guidance should support regulatory analyses that clearly present the analyst's consideration of qualitative factors in a transparent way that decision makers, stakeholders, and the public can understand. This approval does not authorize an expansion of the consideration of qualitative factors in regulatory analyses and backfit analyses. The Commission specifically directed that the revised guidance encourage quantifying costs to the extent possible and use of qualitative factors to inform decisionmaking, in limited cases, when quantitative analyses are not possible or practical (i.e., due to lack of

methodologies or data). As stated in the Commission's direction to the staff, the appropriate weighting of qualitative factors in regulatory decisionmaking ultimately lies with the Commission. As this work is ongoing, the Commission will continue to pay close attention to this element of our work.

It is important to note in this dialogue that the agency has a statutory mandate to provide reasonable assurance of adequate protection of public health and safety, and when establishing that level of adequacy, the Commission does not consider costs, although the Commission may consider costs in selecting between alternative methods of achieving adequate protection. Most of the NRC's regulatory framework today has been established on the basis of adequate protection. That said, the Commission has recognized that it must be deliberate, judicious, and predictable when it comes to establishing new regulatory requirements on the basis of adequate protection.

Another initiative instituted last year focused on decreasing the agency's backlog of power reactor licensing activities, with the goal in the future to eliminate it. Already, in less than a year, the agency has shown some improvement in this area, as we have reallocated resources from lower priority work and expanded the use of contractor support.

Because our resource needs are driven in large part by the workload projections of industry, we also issued a Regulatory Issue Summary seeking information from power reactor licensees on their anticipated licensing actions over the next three years. The staff will use the responses to improve our workload projections.



**High-Level Waste and Spent Nuclear Fuel**

There are a few other topics that I wanted to discuss briefly. The President's announcement in March authorizing the Department of Energy (DOE) to begin the process of developing a repository for disposal of defense high-level radioactive waste has generated questions about the NRC's involvement. DOE has said that such a repository would be subject to NRC regulation, and the NRC anticipates the need, at the appropriate time in the future, to evaluate existing regulations to determine whether revisions are required for regulating a repository holding defense waste, and possibly deep borehole disposal (because DOE has indicated that deep borehole might be a disposal path for some types of defense waste).

The NRC has been responsive to judicial direction to review the construction authorization application for Yucca Mountain with the carryover resources NRC has available. The NRC issued a draft supplemental environmental impact statement on potential groundwater impacts on August 13, 2015, for a 60-day comment period and will hold public meetings to solicit further input. A final supplement is anticipated to be issued in early 2016. However, no decision can be made on whether to authorize construction of the repository until after a hearing on contested issues and the Commission has completed its review of contested and uncontested issues. The NRC has not been appropriated additional funds necessary to begin and complete these adjudicatory proceedings.

With respect to potential interim storage facilities, the NRC has regulations in place to review a spent fuel interim storage facility license application. This is demonstrated by the fact that the

NRC has already issued a license that would authorize an independent spent fuel storage facility – Private Fuel Storage in Skull Valley, Utah – using its current regulatory structure, although construction of that facility has not gone forward. In the past several months, the NRC has received two letters from potential applicants who have indicated their intent to submit a filing for a consolidated interim storage facility. One facility would potentially be located in Andrews County, Texas, and the other in southeastern New Mexico. The NRC does not have resources budgeted for either review in Fiscal Year 2016, but could reprioritize work if applications are submitted. If a high-quality application is received, with no contentions filed, the NRC could complete a review in approximately three years at an estimated cost of \$5 million per application. If a public hearing is requested and held, additional time and costs would likely be required to complete the licensing process.

#### **Advanced Reactors**

Being prepared to evaluate potential applications for light water based small modular reactors and non-light water reactor technologies presents some challenges for the NRC, but the NRC is prepared to receive and review any such applications under its existing framework. To this end, the NRC has been proactive within the framework of its largely fee-based approach to regulatory reviews. Within the constraints of our budget, the agency is working on advanced reactor activities with the Department of Energy, industry standard-setting organizations, and with the Generation IV International Forum. The NRC expects to begin reviewing one small modular reactor design application in late 2016. The NRC is also preparing for potential advanced, non-light-water reactor power applications in the future. NRC's current reactor licensing regulations are anticipated to be adequate for conducting reviews of advanced reactor applications.

However, because the NRC's current reactor licensing regulations and guidance documents were developed based primarily on light-water reactor technologies, the agency recognizes the potential knowledge gaps for both the staff and prospective applicants in applying the acceptance criteria to non-light water reactor designs. In addition, if NRC were to receive an advanced reactor application within the next five years, there may be challenges related to research and modeling work in both the technical issues and code development for non-light-water reactor designs, as well as some critical skill gaps.

### **Decommissioning**

Over the past few years, five reactors permanently ceased operation earlier than anticipated and began the process of decommissioning. These reactors joined 14 other units in some stage of decommissioning under NRC oversight. In addition, Oyster Creek announced it plans to close in 2019, and there are indications other plants may shut down before the expiration of their operating licenses due to economic conditions. The NRC has traditionally used operating reactor regulations for plants undergoing decommissioning, thus requiring the plants to seek exemptions when the regulations for operating reactors are no longer relevant or appropriate. While this approach is sound from a safety standpoint, the Commission has directed the NRC staff to initiate a process for developing a reactor decommissioning rulemaking, with a final rule to be issued by early 2019. This rulemaking will improve the efficiency and predictability of the decommissioning process. The NRC staff will engage the public and stakeholders throughout the rulemaking process.

**Conclusion**

The NRC is reshaping the agency to meet the changing environment of the nuclear industry while retaining the right skill sets to fulfill our unchanging and challenging safety and security mission. The NRC is on the right path and, as in the past, we will continue to adapt to evolving conditions as we go forward.

Thank you, and I would be pleased to answer your questions.

Mr. SHIMKUS. Thank you.

The Chair now recognizes Commissioner Svinicki for 2 minutes if you have any opening statement to give.

**STATEMENT OF KRISTINE L. SVINICKI**

Ms. SVINICKI. Thank you, Chairman Shimkus and Ranking Member Tonko for the opportunity to appear here today.

Chairman Burns has given an overview of a number of important issues before the Commission. I think I will just share one observation.

I was privileged to join this Commission in 2008. So I have been observing the NRC and participating in these activities for a long time now. That has validated me in a conclusion that for large organizations, performance is generally cyclic in nature. And so I have the burden and the blessing of knowing the very high levels of performance that NRC is capable of as an organization. But we have had a lot on our plate, and I think now we have not been perhaps as agile at times as external events might have made us be. So Project AIM, to me, is—it is a challenge, but it is also a very sincere opportunity for NRC to refocus on some of its internal processes and perhaps do that inward look. And as we right-size and adjust our resources, I am very, very confident that this is an opportunity for the NRC to tackle a number of internal challenges. And if we are successful at that, I think we can be very proud of it.

Thank you.

Mr. SHIMKUS. Thank you. The Chair now recognizes Commissioner Ostendorff for 2 minutes.

**STATEMENT OF WILLIAM C. OSTENDORFF**

Mr. OSTENDORFF. Chairman Shimkus, Ranking Member Tonko, and members of the subcommittee, thank you for the opportunity to be here today.

Chairman Burns has already provided an overview in his testimony of key issues in the budget, Project AIM, and the changing nuclear industry environment. I am in complete alignment with his testimony. I do, however, want to expand a bit upon the status of post-Fukushima safety enhancements.

Along with Commissioner Svinicki, I have been involved in all of the Commission's decisionmaking related to what safety changes should be resulting from Fukushima lessons learned. Looking back over the actions of the NRC over the last 4 years as a result of Fukushima, I firmly believe the agency has acted on a foundational basis of solid science and engineering. We have also acted consistently with the NRC's principles of good regulation. Most importantly, the Commission has evaluated new requirements in a structured manner, faithfully adhering to the NRC's longstanding regulatory framework.

Specifically, new requirements beyond those required for adequate protection cannot be imposed unless they constitute a substantial increase in the overall protection of the public health and safety, and this satisfies a cost-benefit analysis.

The Commission recently approved what I consider to be the capstone rule of our response to Fukushima, the mitigation of beyond

design basis events rulemaking. This rulemaking codifies significant enhancements for station blackout, spent fuel pool safety, on-site emergency response capabilities, and emergency preparedness. As evidence of our disciplined approach and adherence to the agency's back-fit rule, the Commission did not approve a proposed regulatory requirement for Severe Accident Management Guidelines over similar industry voluntary initiatives because such a requirement was not cost-justified.

Seeing the light at the end of the tunnel, the Commission also directed the staff to provide a plan to us by late October to resolve remaining Fukushima action items.

I appreciate the opportunity to be here today and look forward to your questions.

Mr. SHIMKUS. Thank you.

And the Chair now recognizes Commissioner Baran. Welcome, and you are recognized for 2 minutes.

#### **STATEMENT OF JEFF BARAN**

Mr. BARAN. Thank you, Mr. Chairman. Chairman Shimkus, Ranking Member Tonko, and members of the subcommittees, thank you for the opportunity to testify today. It is a real pleasure to be back in this hearing room, this time with my fellow Commissioners, to discuss NRC's work.

First and foremost, NRC is focused on our mission of protecting public health and safety. Yet the agency faces a different environment than what was expected just a few years ago when substantial new reactor construction was anticipated and no licensees had yet announced plans to shut down any reactors.

To meet our responsibilities now and in the future, we need to enhance the efficiency, effectiveness, and agility of the agency. Toward this end, the Commission has approved implementing a number of the Project AIM recommendations. This is a critical effort for NRC that will continue to require significant Commission and staff attention in the coming months and years. While we take steps to increase the agency's efficiency and agility, we need to ensure that NRC also maintains its focus on its ongoing safety work.

Currently, five new reactors are being built in the United States, and five reactors recently ceased operations and are entering decommissioning. At the construction sites, NRC is conducting oversight to ensure that the new plants are built safely and meet regulatory requirements. Meanwhile, the NRC staff is beginning their rulemaking to take a fresh look at a number of decommissioning issues.

NRC continues to address post-Fukushima safety enhancements and lessons learned. Progress has been made in several areas, but we recognize that more work remains to be done. NRC also is responsible for having an efficient and effective licensing process for new designs and facilities. While NRC continues its work on pending applications for new reactors, we need to be ready to accept and review applications submitted for new technologies. NRC is already reviewing an application for a new production facility for medical isotopes and anticipates additional applications of this type in the future. We also, as Chairman Burns mentioned, are expecting to

receive the first application for a small modular reactor design in late 2016.

In closing, I recognize that our congressional oversight committees are more interested than ever in NRC's mission and the way we are carrying out that mission. I firmly believe that NRC can provide Congress with the information it needs to perform its oversight duties while preserving the independence that is essential to accomplishing our safety and security mission.

Thank you, and I look forward to your questions.

Mr. SHIMKUS. Thank you very much, and I will now recognize myself 5 minutes for starting the questioning. So here we go.

On August 25, 2015, the Commission released the votes concerning the cumulative effect of regulation process enhancement and risk prioritization initiative. From a review of the votes, it appears that Commissioners Svinicki and Ostendorff voted to approve staff option one, which is the continuation of NRC efforts to address the cumulative effects of regulation. On the other hand, Chairman Burns and Commissioner Baran approved one aspect of staff option two, which is to allow licensees to request compliance schedule changes using a risk prioritization methodology.

Chairman Burns, with the vote split as it was in this manner, can you help the committee understand how the NRC staff will proceed in this manner? What exactly has the staff been directed to do?

Mr. BURNS. Certainly, Mr. Chairman. Essentially, the staff will continue, and that was part of the instruction that we gave in our staff requirements memo, our direction to the staff, that it should continue the ongoing efforts with respect to the cumulative effects of regulation. And I think that—in simplest terms, that is the outcome. This was not an effort to sort of draw back the staff, but I think there was a difference of view as to the value added of one of the suggested options that the staff gave us.

Mr. SHIMKUS. Thank you.

Commissioner Ostendorff, in your vote, you support a status-quo approach and emphasize that the NRC staff can already apply risk-informed decision making in reviewing licensee exemption requests, and that risk insight should be considered through existing agency processes. Do you believe current NRC regulations and guidance provide adequate risk prioritization authorities for the staff? And are there other improvements that could be made to ensure that the focus of NRC work remains on safety-significant actions?

Mr. OSTENDORFF. Yes, sir. I believe, Chairman Shimkus, that the staff does have existing authority to use risk insights in making decisions. In particular, with respect to the timing of completion of individual nuclear power plant compliance with various requirements. And though there was a 2/2 split on the vote, I would say there is a lot of consensus among the four of us, if I can just add my personal view here, and that we were somewhat hesitant, Commissioner Svinicki and I, to look at adding an additional bureaucratic step to the process that we don't think was necessarily needed.

Mr. SHIMKUS. Great. Thank you.

Chairman Burns, what will the next steps procedurally be when the Commission receives the staff paper expected in October concerning the remaining post-Fukushima Tier 2 and Tier 3 activities? Will the Commission close out any of these?

Mr. BURNS. I think we have to wait to see what the paper says. But in requesting that paper, I think you can—from my sense, at least, it sort of foreshadows. I think the Commission is interested in seeing what do we have left with respect to the Tier 2 and Tier 3, and are we at a point where we can make the judgment about value added, if any, of pursuing some of those options. So I would expect the Commission to give careful consideration to what the staff puts before us in terms of looking at a path forward.

Mr. SHIMKUS. Thank you.

The Commission is currently developing its fiscal year 2017 budget request. As you all know, the courts directed the NRC to resume consideration to fulfill its statutory obligation to review the Yucca Mountain license application. You have previously stated the current plan activities will use the remaining available funding for Yucca Mountain and need approximately \$330 million to complete the license.

I would like to ask each of you individually for a simple yes-or-no answer. Will you support requesting funding in the NRC's budget to continue review of the Yucca Mountain license application?

Mr. BURNS. For me, no, not in the absence of other indication that the agency, the Department of Energy, would also be going forward with it.

Mr. SHIMKUS. OK. Commissioner Svinicki?

Ms. SVINICKI. Yes, consistent with my previous votes.

Mr. SHIMKUS. Commissioner Ostendorff?

Mr. OSTENDORFF. Yes, consistent with my previous votes.

Mr. SHIMKUS. Commissioner Baran?

Mr. BARAN. No. I don't support requesting funding because as a practical matter, I don't see how the adjudicatory process at NRC could work if the Department of Energy does not support its own efforts.

Mr. SHIMKUS. But we do all agree that the Nuclear Waste Policy Act is the law of the land, which states that the long-term repository in the statute is to find this Yucca Mountain. Correct?

Chairman Burns?

Mr. BURNS. The Waste Policy Act identifies Yucca Mountain as the one for evaluation.

Mr. SHIMKUS. Thank you.

Commissioner Svinicki?

Ms. SVINICKI. Yes. It is the law until modified or changed.

Mr. SHIMKUS. Commissioner Ostendorff?

Mr. OSTENDORFF. Yes.

Mr. SHIMKUS. And Commissioner Baran?

Mr. BARAN. Yes.

Mr. SHIMKUS. I only have 12 seconds left. I will yield back my time, and yield to the ranking member, Mr. Tonko, for 5 minutes.

Mr. TONKO. Thank you, Mr. Chair.

Commissioner Baran, I believe we agree with each other that safety at nuclear plants is of paramount importance. I want to ask



you about the way in which our changing climate affects safety and operations at nuclear power plants.

In July, the National Oceanic and Atmospheric Administration confirmed that 2014 was the hottest year on record. The world experienced record high surface temperatures, ocean temperatures, and continued sea level rise all in 2014. A number of areas in our country are experiencing prolonged severe drought conditions, and since greenhouse gas emissions continue to rise, these trends are likely to continue or worsen going forward.

So it is not surprising that this summer, the Pilgrim nuclear power plant in Massachusetts was forced to shut down because its cooling water supply was too hot. The NRC license for Pilgrim requires that the intake water be less than 75 degrees and that the discharge water not exceed 102 degrees. The intake water was above 75 degrees and the discharge water was at 101.2. Also, this is not the first time that the water there has risen above those permitted levels. It happened twice in 2013 as well. And the Pilgrim facility is not the only one to have experienced this problem in recent years. So I ask: What exactly happened at Pilgrim and should we expect that it could happen again?

Mr. BARAN. Well, thank you for the question. I think you articulated this particular event very well. We have seen a number of plants temporarily shut down, reduce power, or seek regulatory exemptions when their cooling water supplies either got too warm or were insufficient. And we have seen several instances of that over the last several years, as you mentioned, at a number of different plants. Currently, those issues are evaluated on a case-by-case basis. So the technical specifications of each of those plants, as you indicated, indicate the temperatures that are acceptable for cooling water intake and discharge, and the plants have got to meet those technical specifications.

If they can't because the water is too hot or there isn't enough of it, they are going to scale back power, they are going to shut down, or they are going to come to the NRC and say, "We think it is safe to operate a little bit warmer than that with the water" and seek an exemption. And then we at the NRC, the staff, would look at that exemption request on a case-by-case basis.

Mr. TONKO. So the plants are given a 30-year license, and most designs require significant availability of water for the cooling process. So what is the NRC doing to ensure that proposed plants will have sufficient water and sufficient cool water to operate? And, again, spanning over a 30-year plant.

Mr. BARAN. Well, it is an interesting question because, as you point out, with the time scales, we could see changes in that on climate. You know, another piece of this that I want to raise is related to the climate risk of flooding. And so there is a lot of analysis being done at NRC right now on that issue as a result of the post Fukushima flood hazard re-evaluations. Right? So for plants across the country, the current flood hazard based on the latest science is being re-evaluated, and that is going to include all the latest information of what to expect in terms of flooding issues.

Mr. TONKO. OK. And does the NRC review of a license application consider water availability and competition for water use with-

in the watershed or coastal zone in the plant's proposed location over the 30-year span of the license?

Mr. BARAN. I believe all those issues would be addressed in the environmental impact review, environmental impact statement.

Mr. TONKO. And Chairman Burns, and to our other two Commissioners, your thoughts on this matter as we look at a 30-year window that reviews a license review or application, given the climate change challenge, what are your thoughts as to how we proceed forward?

Mr. BURNS. Well, Mr. Tonko, as I think Commissioner Baran said, those issues are taken into account in terms of the licensing review, and actually, our licenses are issued generally for 40 years—it is a 40-year license that is generally issued. So those are looked at whether from—and there may be safety as well as environmental aspects to it. Part of the licensing of the plant does look at longer term in terms of not just operation today, but operation over a period of time. So I think those would be taken into account in that regard.

Mr. TONKO. So has there been an adjustment in the thinking in the applied science of all of this with the changed data compilation that we have understood to be making a statement now?

Mr. BURNS. Well, I think what there is, there is an evaluation. I would hesitate, and I have to check with the staff and we could probably provide you an answer for the record with respect to how that has changed. As Commissioner Baran says, there are—on occasions, there have been plants that may experience the high temperatures in the water source, and that license conditions and all deal with that. I don't know that we have actually looked at a particular trend or seen a particular trend.

Mr. TONKO. Are existing plants assisting them in any way?

Mr. BURNS. Pardon me?

Mr. TONKO. Is there any effort to help existing plants to adapt to changing water temperature and drought?

Mr. BURNS. Well, I think, again, that what they look at is what those parameters are, and there may be an assessment of what the margins are in terms of the levels or the temperature levels, I would expect.

Mr. TONKO. Thank you. And I yield back, Mr. Chairman.

Mr. SHIMKUS. The gentleman yields back the time.

The Chair now recognizes the chairman emeritus of the full committee, Joe Barton from Texas, for 5 minutes.

Mr. BARTON. Thank you, Mr. Chairman.

What happens to high-level waste at civilian reactors that are decommissioned, Mr. Chairman? Mr. Burns?

Mr. BURNS. Currently that waste is stored at the site.

Mr. BARTON. Permanently?

Mr. BURNS. Well, until there is a repository or a consolidated storage site to take it to.

Mr. BARTON. OK. I listened to the answers that each of the Commissioners gave to Chairman Shimkus' question about Yucca Mountain, and, you know, you were all agreeing that it was a repository, but you weren't sure if you could put any funding for it. Wouldn't it be—and I support Yucca Mountain as a final repository. So there is no daylight between Chairman Shimkus and my-

self on that. But I do think that given the status of Yucca Mountain or the lack of status, you might say, that it might be prudent to consider some sort of an interim storage solution.

Mr. Chairman, each of the Commissioners, what are your thoughts about moving forward with interim storage while we hash out the final resolution to permanent, given the fact that we are beginning to decommission these reactors? And I don't think it is a good solution at all to have a high-level nuclear waste at a decommissioned civilian reactor site out in the country. So what are your thoughts on let's try to figure out a way to do interim storage while we hash out permanent storage.

Mr. BURNS. Well, Mr. Barton, the NRC, as you know, is the regulatory—is a regulatory body. And what will come before us, whether it is an application for the repository Yucca, or whether interim storage facilities, we are prepared to look at that and make a safety and security judgment on that. We have, in the past, we did consider the licensing and approve the licensing of an interim storage site which did not go forward, the private fuel storage site I believe in Utah, and we have had expressions of interest, and we may get an application from waste control specialists——

Mr. BARTON. Chairman, you are open to it.

Mr. BURNS. We will do what, as you say, in that area, we are prepared to receive an application and consistent with the law——

Mr. BARTON. Let's hear the other three Commissioners. Ms. Svinicki?

Ms. SVINICKI. Sir, again, as a safety regulator, our obligation is to make sure that if there is no alternative and this fuel ages in place for very, very long periods of time, that we have the safety judgment that it can be safe on the sites where it is located right now. So as a Commissioner, that is our singular focus, is on whether or not it can be safely stored in the absence of other national——

Mr. BARTON. You all are very good at not answering questions.

Ms. SVINICKI. I don't have a——

Mr. BARTON. I just asked a straight question. You know, you are citizens. You all are some of the smartest people. You know more about nuclear storage than anybody else in the country. I am not asking for the Obama position, I am just asking generally, if you are open to an interim storage proposal. You know, that is all I am asking. So far I am 0 for 2.

Ms. SVINICKI. I am confident that it is safely stored, but as a citizen, I think that if it could be stored in fewer locations, that would be desirable.

Mr. BARTON. Thank you.

Mr. OSTENDORFF. Congressman Barton, I am open to an interim storage solution with the caveat that I think our storage security right now, those practices at operating as well as decommissioned sites, is being done safe and securely now.

Mr. BARTON. OK. Thank you, sir.

Mr. BARAN. Congressman, this is, as you know, ultimately a policy question for Congress. The Blue Ribbon Commission recommended consolidated interim storage as part of the overall solution to the Nation's high-level waste problem. You know, as a citizen I could say that interim storage could allow some decommis-

sioned reactor sites to close completely. It would create a place for the spent fuel that is being kept on site to go. And it could reduce the Federal Government's liability for failure to take title to the waste.

I just want to mention, though, that currently under the Nuclear Waste Policy Act, I think you'd have to have a change in the Nuclear Waste Policy Act to allow the Department of Energy to take title to that waste, which I think would be likely kind of a necessary predicate for interim storage as you are imagining it.

Mr. BARTON. Thank you. I will say it is refreshing, Mr. Chairman, to hear people say that it is a policy question for the Congress to address. That is a good thing. And I appreciate their openness to it. With that, I yield back.

Mr. SHIMKUS. The gentleman yields back his time.

The Chair now recognizes the gentlelady from California, Mrs. Capps, for 5 minutes.

Mrs. CAPPS. All right. Thank you.

Thank you, Mr. Chairman, and I thank you all for your testimony today. I represent Diablo Canyon Nuclear Power Plant in San Luis Obispo, California. And this is a power plant that is owned and operated by PG&E, a key part of our local economy supporting hundreds of quality jobs in the area, and also supplying efficient clean energy for a lot of people.

But it also sits very close to two significant earthquake faults, the Hosgri Fault was discovered during construction of the facility, but the Shoreline Fault was only discovered in 2008, and it comes within just a few hundred yards of the power plant. These faults have raised numerous important safety questions, particularly in the wake of the Fukushima disaster. These questions are particularly important as NRC considers PG&E's applications to re-license Diablo Canyon's two reactors for an additional 20 years.

After Fukushima, I urged the NRC and PG&E to suspend this process, this renewal process, until seismic risks at Diablo were better understood. And consideration of re-licensing was suspended soon after, but now the NRC has recently started the process.

So, Chairman Burns, can you provide a status update on the license review process, and also outline the next steps and the timeline going forward.

Mr. BURNS. Yes, ma'am. There are two primary aspects to the review: a safety review and the environmental review required by the National Environmental Policy Act. The staff re-initiated the safety review I think earlier this spring, and more recently, published a notice on it with respect to the scoping process for the environmental statement. And I think we are about at the end of that comment period for the scoping. I believe that the timeline for the decisionmaking would be for the staff to make a decision by about 2017 with respect to the renewal. Now separately, I think as you know, we are also—and this comes in part out of post-Fukushima actions, but also, I think, the ongoing interests with respect to an evaluation on seismic issues—we also have a seismic evaluation underway.

PG&E provided information like other licensees did with respect to the seismic re-analysis, and we have accepted that for review,

and we are doing that, and I think that is about on the same time-frame.

Mrs. CAPPS. And would you highlight the steps that NRC is taking and has taken to ensure the public participation and transparency in this process? As you know, there is a great deal of interest in the communities surrounding the Diablo Canyon facility.

Mr. BURNS. Yes, ma'am. Again, we have had a number of public meetings, some related to the seismic analysis as well as license renewal. The license renewal, I believe that there is formal intervention in the proceeding, so that public hearing process would go on. We have a couple other issues with respect to how to treat—I guess the easiest way to say it—how to treat PG&E's updates as a seismic review, whether as a legal matter that involved a license amendment. I believe that is still pending—that issue is still pending.

So that, again, is a participation process, and I know our regional administrator has gone out as just part of the normal process of the performance of the plant and will try to engage the public.

Mrs. CAPPS. Great. Thank you. And after the discovery of the Shoreline Fault, I worked with then-State Senator Sam Blakeslee, who is a physicist who has studied these things, and others, to require additional seismic testing of the areas surrounding Diablo Canyon and the State did comply. And the results of these studies were released last year by PG&E.

These studies will be examined by NRC and by an independent panel of experts appointed by the State. I know you are aware and part of that. I know that there are experts that you have as well, but this independent—I have always said, you know, if you are going to study something, have an outside third party, independent team to come in and assess the seismic risk. Can you assure us that no decision regarding re-licensing will be made until the State's independent review of the seismic data is completed?

Mr. BURNS. Ma'am, my understanding is we are taking into account the information developed by all the reviews with respect to the seismic characteristics of this site. That is my understanding.

Mrs. CAPPS. And I know my time is out, but is this going to—are these results going to be incorporated into your own analysis?

Mr. BURNS. I believe we would take them into account, yes.

Mrs. CAPPS. Thank you. I yield back.

Mr. SHIMKUS. The gentlelady yields back her time.

The Chair now recognizes the gentleman from Mississippi, Mr. Harper, for 5 minutes.

Mr. HARPER. Thank you, Mr. Chairman. And thanks to each of you for being here, and certainly your agency is charged with a very important mission. It is important for the security of our country, and it is an agency that must function properly. And I would like to ask you a few questions, if I could, Mr. Chairman. In 2012, the Advisory Commission on Reactor Safeguards recommended the Commission not undertake any revisions to the limits of occupational radiation exposure. Are you aware of those recommendations?

Mr. BURNS. In general terms I am, yes.

Mr. HARPER. OK. And do you support this recommendation?

Mr. BURNS. Well, I think we would take that recommendation and evaluation into account in determining whether to go forward with any particular changes to our rules. I think this would probably bear mostly on our exposure, or radiation protection, rules and in 10 CFR Part 20 of our regulations.

Mr. HARPER. And are you aware that on March 18, the Commission published an advanced notice of proposed rulemaking to receive public comment on revising these standards?

Mr. BURNS. Yes, I am.

Mr. HARPER. What was the basis for pursuing this rulemaking giving the ACRS recommendation?

Mr. BURNS. Well, the rulemaking, as I recall, involves more than the question of whether or not occupational standards ought to be changed. In part, I think the question is whether they ought to be changed in conformance with some international recommendations. But there are other aspects, as I recall, of the rule that might be considered. And right now at this point, the point of the advanced notice is to receive public comment to determine whether or not we ought to go forward at all with a proposed rule, much less a final rule. And we haven't gotten to that point as yet.

Mr. HARPER. So what other aspects may have been considered?

Mr. BURNS. I think there are ways of dose calculation. There is some—some, say, probably more administrative type changes. I would be happy to provide that for the record. But it is more than, as I recall, more than just a question of whether or not to reduce the permissible occupational dose.

Mr. HARPER. And I would ask that you provide that additional information for the record and the purposes of this hearing.

And if I may ask you also, Chairman Burns, due to the Federal Government's inability to open Yucca Mountain, utilities currently store spent nuclear fuel in dry cask storage at reactor sites in what are known, as you know, independent spent fuel storage installations. In 2007, the Commission directed that the design basis threat for these facilities were adequate and safe. However, there is now an effort to impose new security requirements upon licensees which will necessitate licensees incurring significant costs and require additional safety and training requirements. Has the design basis threat changed since 2007?

Mr. BURNS. I am not aware that it has.

Mr. HARPER. So the answer would be no, is what you are saying, Mr. Chairman?

Mr. BURNS. I believe so.

Mr. HARPER. OK. And if not, why is the Commission pursuing additional safety requirements on dry cask storage facilities?

Mr. BURNS. I presume—and some of my fellow Commissioners may have something to say on that—that in looking at it, this is in terms of trying to assure that the design basis threat is met and that other upgrades that we deem necessary through the public comment process.

Mr. HARPER. OK. But it hasn't changed, and so, but now we have got these additional safety requirements. Yes, sir, Mr. Commissioner.

Mr. OSTENDORFF. Congressman Harper, if I may add, the design basis threat review did not indicate a change to the design basis

threat. What we have as an agency, it is called implementing guidance, which is used by licensees to execute our regulations. So there are clarifying steps taken in that guidance. It is my understanding—I was briefed on this just 2 weeks ago—it is my understanding there is not any ratcheting up of standards in this new guidance.

Mr. HARPER. I believe my time is up. I yield back.

Mr. SHIMKUS. The gentleman yields back his time. The Chair now recognizes the gentlelady from Florida, Congresswoman Castor, for 5 minutes.

Ms. CASTOR. Thank you, Mr. Chairman. Good morning NRC members. Thank you very much for your service to the country and for being here this morning.

In Florida, consumers are still quite angry over—due to the fact that they are on the hook for repairs and closeout to the Crystal River nuclear plant. This will blow your mind, but customers are on the hook for over \$3 billion because the utility in a repair situation did some things out of the norm on their own and, in essence, broke the plant. They sometimes refer to it as the “Humpty Dumpty” plant.

As the nuclear plants across the country age, and more of these type of repairs have to be done. At Crystal River this was the steam generator. I guess it’s—one, a former NRC member called this a mega screw up. They said something similar about San Onofre as well.

Could you go through right now what is the NRC’s role when a utility embarks on these type of repairs?

Mr. BURNS. Essentially, our role is an oversight role. We may inspect, observe what what changes or, in effect, construction type activity at a site. In some respects, we have an approval role with respect to issuing amendments to a license if that is necessary, because the nature of the repair or the change to operation is such that it is beyond the current license and it requires a change to the license.

Ms. CASTOR. So in a case like Duke Energy and its predecessor and Florida Power at Crystal River, when they embarked on doing some repair that was out of the norm. At that point, does the NRC have oversight? Do you have the ability to come and say, you know, what you are doing does not meet the current standards there where we—can you say, no, do not proceed with that repair, we do not agree?

Mr. BURNS. We have—again, if it is an activity that would not be within the scope of their current license, we would have a role in terms of reviewing a proposed change before it is implemented. But there are many types of activities at a plant which are—which can be done within the scope of the license. What the licensee is supposed to do is to do an adequate and high quality evaluation of the nature of that activity.

Ms. CASTOR. Do any of the other members have a comment? Yes, sir.

Mr. OSTENDORFF. Thank you for the question. I had a chance to visit Crystal River back in 2010 when I first joined the Commission. What we had here, think of a sphere that is made of concrete called containment, and there is a tensioning cable that went

around the circumference of the sphere. Detentioning that cable is part of a maintenance period. There is criticism as to the technique that was used to detention this cable, resulting in concrete cracks. NRC does not, from a regulatory standpoint, go and micromanage exactly how the licensee conducts its maintenance. We do make sure that plant is safe to start up.

Ms. CASTOR. OK. How many nuclear plants are there in the U.S. right now?

Mr. BURNS. There are 99 operating plants in the United States.

Ms. CASTOR. Are there many being built now, new plants?

Mr. BURNS. There are five under construction. One, Watts Bar plant, the Tennessee Valley Authority, will probably enter operation next year.

Ms. CASTOR. And most of the nuclear plants that are in existence today were constructed during what time period?

Mr. BURNS. 1980s.

Ms. CASTOR. So these are aging plants. And it is likely, over time, to meet their useful life that they are going to need repairs. Do you feel that the NRC has the capability now? I know you said your responsibility is just to—you don't want to micromanage, but this is a \$3 billion cost to customers in Florida. They are on the hook for it, even though it was the responsibility of the utility. We have got to do a better job. Don't you see any future now with the NRC with these aging plants, you have to take a more active role in ensuring that the utilities meet a standard of care?

Mr. BURNS. Well, we do take an active role, we have rigorous requirements quality assurance in terms of activities, in planning for the way activities are undertaken. We have a maintenance rule that focuses on equipment in the plant and the license—to the extent plants go into license renewal, we focus on the aging of components. I think, as Commissioner Ostendorff said, at some point, the operation and maintenance of the facility is the responsibility of the licensee, they need to conduct it in conformance with our safety requirements, and that is where it is. I think from my standpoint and the Commission's standpoint, we have significant requirements that address—

Ms. CASTOR. Would you be willing to look into this moving forward so that customers can avoid these kind of major costs that are passed on to them?

Mr. BURNS. And part of our oversight of plants, we certainly will look at the question of maintenance and the quality in terms of how operations and maintenance operations are conducted.

Mr. SHIMKUS. The gentlelady's time has expired. The Chair now recognizes the gentleman from Kentucky, Chairman Whitfield, for 5 minutes.

Mr. WHITFIELD. Thank you very much. On August 3rd, EPA finalized its Clean Power Plan under section 111(b) of the Clean Air Act. Of course, that regulation has created a lot of controversy around the country, and many people think illegal lawsuits have been filed. And as you know, EPA arbitrarily selected CO<sub>2</sub> emission limits for each State, but also, they allow for power upgrades—uprates in that regulation.

And I was just curious if you all, or maybe you, Mr. Burns, or anyone else would like to comment, tell me, did EPA actually talk



to you all about that plan before it was finalized? Did anyone from EPA come and discuss this with you before they finalized it?

Mr. BURNS. No, not that I am aware of.

Mr. WHITFIELD. OK. Now, what is the NRC's normal timeframe for reviewing and approving these power uprate requests?

Mr. BURNS. I think it will depend on the complexity of it, but I usually think within probably a couple years.

Mr. WHITFIELD. Now you all have some pending uprate requests before you?

Mr. BURNS. I think we might, but I would have to check for the record. It certainly is addressing power uprates and reviewing it is something we have done over the years.

Mr. WHITFIELD. Have you all given thought whether or not you need to adjust or otherwise accelerate your process for reviewing and approving these power uprate applications as a result of the Clean Power Plan?

Mr. BURNS. No.

Mr. WHITFIELD. OK, OK. Well, your Web site says you have four pending applications for power uprates. And there is a table showing seven expected applications for power uprates. And I am—of course, I don't know how many States going to go submit their State implementation plans on time or anything else. But this is an area is that obviously States are looking vigorously for ways to meet the CO<sub>2</sub> standard, or limits. And if you can produce more nuclear power, obviously that is one way to do it. So I think that certainly is very important issue to be focused on.

Let me ask you another question. We hear a lot about modular nuclear power plants, would you give me your—are you all taking the applications for modular nuclear plants or is that premature, or—I know there are groups that are meeting with DOE on a regular basis about modular plants, so what is your all's perspective on that?

Mr. BURNS. We do expect an application for a design certification for a small modular unit. I think the application will be filed in late 2016. And also, the Tennessee Valley Authority has indicated it will seek what we call an early site permit, basically a site approval, at the Clinch River site, the site for a small modular reactor.

The other thing I would emphasize, Mr. Whitfield, in fact, we had a workshop, I guess, last week jointly sponsored with the Department of Energy where we are trying to engage the community that may be interested in a small modular reactor or advanced reactors to assure that when the time comes we are prepared in terms of looking at the acceptance criteria and things like that. So as I say, we have a couple of things coming, coming and then we are trying to make sure we are prepared for the longer term.

Mr. WHITFIELD. At one time I heard that the Commission was not in a position regulatory to deal with these issues. Is that accurate, or is that just a wild rumor that I heard?

Mr. BURNS. What I think we are prepared for from the licensing process, I am confident we can manage these types of applications with the licensing process. What the difference is—and these are some of the issues we have been working on with DOE—is because some of the technology, the current is nonlight water reactor tech-

nology, so that is where you want to see what the gaps are in terms of the acceptance criteria, things like that.

Department of Energy, in its R&D role, has prepared some reports they shared with us, and as I say, we are keeping an open dialogue there with them and as well as those who may be interested in the industry.

Mr. WHITFIELD. Do you want to—

Mr. BARAN. Sure. I just wanted to add, there are some differences between small modular reactors and larger traditional reactors, and those differences raise some technical and potentially some policy issues that the agency is actively working through. There are questions about control room staffing, the size of emergency planning zones, how our annual fee is going to work. And so the Commission, actually, briefly addressed a couple of those issues with rulemaking and looking at the fee question, and the emergency planning question, and the staff interacting with the Commission are looking at these other issues as well, so that there is good regulatory certainty for potential applicants about what is the path forward to get a license if you have a small modular reactor design.

Mr. SHIMKUS. The gentleman's time has expired. The Chair now recognizes the gentleman from California, Mr. McNerney for 5 minutes.

Mr. MCNERNEY. I want to congratulate Mr. Baran on your confirmation. I wouldn't want to go through that process myself.

Mr. Chairman, is the NRC capable of managing its significant growth in nuclear power if the Nation should decide to go down that path?

Mr. BURNS. I think we are capable of managing that. One of the issues we are dealing with today is trying to look out 5 years, this is the Project AIM 2020 from the standpoint of looking at what do we need to prepare for as well as looking at where we are today. And because we grew a lot in the last decade, we have, in terms of on our plate, a fewer number of reactor applications. We had the discussion with Mr. Whitfield. One of my concerns is that we are prepared if we get additional applications, not only for small modular reactors or advanced reactors—

Mr. MCNERNEY. You get upgrades, you get new power plants, you get small modular reactors. You get a whole slew of things.

Mr. BURNS. Yes. I think part of what we want to do and what we are trying to look at through our Project AIM at positioning ourselves that we maintain the technical expertise that we need in those areas.

Mr. MCNERNEY. Commissioner Svinicki, could you explain Project AIM briefly please?

Ms. SVINICKI. Well, as Ranking Member Tonko and a number of members of the subcommittees addressed in their opening statements, we have seen a very dynamic electricity industry over the last few years. As a large organization, we lag a little bit behind in adjusting as the regulator to the changes to the regulated industry. So we find ourselves right now at resourcing and staffing levels, and an organization not always aligned to the regulatory work that is in front of us. So Project AIM is a whole set of initiatives looking at bringing, simply put—our H.R. Director said we need to

move expertise in alignment with the work in front of us and look at being able to be efficient and effective, but maintain the expertise to be agile, because based on the Clean Power Plan and other things, it is very difficult for us to forecast 5 years from now or 10 years from now exactly how we need to be staffed and resourced, but we are going to work on that efficiency and agility piece.

Mr. MCNERNEY. Thank you. Commissioner Baran, is there a cumulative effect of regulation on the new licensing process? In other words, is there an effect that would require licensing to take another 5 years or something like that?

Mr. BARAN. Well, we have several processes in place to look at cumulative effects of regulation issues. One of the things we do, for example, and these were instituted prior to my arrival on the Commission. When a proposed rule for a new requirement now goes out at NRC, that is accompanied at that time with proposed implementation guidance, so that licensees have a very clear sense of what is likely going to be required of them. That makes it much easier for them to comment, it also makes it easier for them to plan, to provide us with cost estimates about what it might cost to comply. So that is one of the things that we are doing already on an ongoing basis.

You know, licensing of new reactors and new reactor designs, in some cases, it has taken a number of years. Typically, in recent years, it has not been the fastest process, and there are a variety of reasons for that. From my point of view, and if I am looking toward a small modular reactor being an application that we would expect next year, what we, I think, as an agency are emphasizing to applicants is you need to submit a high-quality application, and then we need to be ready for it, and both sides really have to bring their A game to it if we are going to get it done in a reasonable timeframe.

Part of that is also thinking ahead, as I was mentioning to Chairman Whitfield, what are the potential issues and the potential challenges that we would need to resolve on a particular license or type of application? Let's get that going well in advance so that when that application actually comes in, a lot of work has already been done to move us toward a timely result.

Mr. MCNERNEY. Thank you. Commissioner Baran, what would it take to get the Yucca Mountain project to move forward?

Mr. BARAN. You are talking about for NRC's review of it?

Mr. MCNERNEY. To get the project moving forward.

Mr. BARAN. For NRC's review of it, the estimate that the staff came up with for the cost of our adjudicatory proceeding is somewhere in the range of 300 to 350 million. That would be, I believe, the largest adjudication.

Mr. MCNERNEY. This isn't just about money, the economic project. There are other impediments in the way.

Mr. BARAN. Well, as I mentioned earlier, and the reason I haven't supported asking for that money is, you have to have an applicant that's committed to their application. And so, you are looking at years of an adversarial trial-like process to get that license. I believe it's currently 288 contentions or claims. That number could go up if the adjudication resumed. And if you don't have an applicant that wants to defend its own application, ultimately,

they have the burden of demonstrating that their application is going to be safe, I just don't see how that process works.

So, you'd have to have an engaged applicant. DOE would need money to do that, we would need money to do that. There are a lot of things you need to make the process work.

Mr. SHIMKUS. The gentleman's time is expired. The Chair now recognizes the gentleman from Texas, Mr. Olson, for 5 minutes.

Mr. OLSON. I thank the Chair. Welcome to our witnesses. Nuclear power is an important part of America's energy portfolio. Not far from my home is the south Texas project in Bay City. It is a stable and reliable source of power to the entire Gulf Coast, and a cornerstone of our grid. Either one came online August 25th of 1988 to June 19th of 1989. The electricity prepared provides 1,200 good-paying jobs for our local economy, and brings prospects for the next generation of science and engineering students. As I have mentioned to this committee before, local schools, like Wharton County Junior College led by President Betty McCrohan, have stepped up to train the next generation of nuclear power workers.

As older employees retire from the plant, where they have worked for decades, since it opened in late 1980s, training like this is more critical than ever to fill these gaps. Nationwide nuclear power is critical, as one continues to shut down based on power, nuclear helps keep our grid running.

We love wind in Texas. We are number 1, but you can't run an entire grid on wind.

My first questions are for Chairman Burns. We are not building nuclear plants these days, new ones, the applications for unit 3 and 4, NRC—at NRC for south Texas were filed on September 20 of 2007. They are going nowhere quickly. So older plants remain incredibly important.

In the coming years a number of these plants will begin the process of asking for another extension beyond the typical 30-year extension. How the Commission approached these requests to extend the life of these older plants? What sort of time line does NRC use to sort out these issues?

Mr. BURNS. Thank you for the question. I had the pleasure of going to South Texas site a few months ago and visiting down there. I know what the support—I talked to some folks down there in terms of the support in the community and the importance with which they see it.

Our license renewal rule essentially provides for initially a 20-year life extension. We are also in the process of considering, and there has been research done—again, this is something that the Department of Energy has also supported—that looks at the potential for extension up to 80 years. That is still on the horizon. We may hear something from industry within the next few years, but we are trying to position ourselves in terms of the research and all on that. But we have a well-tested licensing renewal process. Now, about 75 of the 99 units currently in operation, I believe, have received renewed licenses under that process.

And we have others either in the review process or expect to come in the review. So I think we are well-equipped to handle and have demonstrated the effectiveness of the license renewal process.

Mr. OLSON. Question for Ms. Svinicki and Commissioner Ostendorff: If you could pick one change of law at the NRC that would put that in place immediately—you are the all-powerful king or queen—what would that be? Ms. Svinicki? Mr. Ostendorff? You are the king, what would you want to do? What would you want to change, one change?

Mr. OSTENDORFF. Well, that is a great question. I wish I had a pithy answer to respond to you, Congressman. I would like to give it some thought so I can get back to you.

Mr. OLSON. Ma'am any ideas through you head? You are the queen for a day.

Ms. SVINICKI. I would do the same. I think Commissioner Ostendorff and I were both also congressional staff in earlier parts of our career, so I put aside my thought of changing law, and now I just focus on complying with it.

Mr. OLSON. OK. Chairman Burns, if this is not the Commissioners' ideas, what would you change as a citizen, any ideas? No?

Mr. BURNS. One of the issues—and I know we, not struggle with, but have had a lot of attention to, and I will venture a guess—is that there is a provision that applies with respect to power reactors on foreign ownership, domination and control. And while that has, I think, a role, I think there is actually greater flexibility in the materials area. This has been an interesting area for investment and all. And it is something, to some extent, it is a little bit out of what I call the normal wheelhouse of the NRC.

So, I wondered if that is—but that is not a fully gelled thought, maybe, but that is something I think about. And the reason I think about that is because I remember—I think it may have been in the Energy Policy Act—for example, originally we had antitrust responsibilities which were also being done by the Federal Trade Commission and Department of Justice, and that was something that, I think, that we were relieved from. Because again, if we are focused on safety and security, that is where we want to be focused. So that is just sort of a random idea.

Mr. OLSON. Well, thank you. I am out of time.

Mr. SHIMKUS. Gentleman's time is well expired.

Mr. OLSON. You have the crown on. For the record, what you want to do, for the record, please, sir.

Mr. BARAN. I am a small "r" republican. I leave it to you all to write the laws and we will implement them.

Mr. OLSON. I yield back. Thank you.

Mr. SHIMKUS. The Chair now recognizes the ranking member of the full committee, Mr. Pallone, for 5 minutes.

Mr. PALLONE. Thank you, Mr. Chairman. Commissioner Baran, my questions are to you. I understand that the nuclear industry developed Severe Accident Management Guidelines, or SAMGs, in 1996 to respond to severe events involving multiple failures of safety equipment in nuclear plants. So my question is, I have four, but first: What are the benefits of emergency planning at nuclear power plant facilities? And how can the focus on safety protect the public and prevent the massive costs associated with the Fukushima-style disaster?

Mr. BARAN. Well, I think everyone agrees, and I don't think there is any question, that Severe Accident Management Guidelines, that

kind of emergency planning, is crucial and really valuable. The debate we had recently was about—or, the question we had presented to us recently is, Should we make that a requirement? It has been a voluntary initiative, as you mentioned, it went into effect basically 1998. It wasn't really inspected by NRC from 2000 on until after Fukushima. I think you could ask industry, you could ask anyone who is a player in this area, and they would tell you these are really important planning tools, and SAMGs are a very good idea you want to have at a plant.

Mr. PALLONE. Well, can I ask you second, have these requirements led to increased plant safety or increased protection for public health and safety?

Mr. BARAN. Yes, I think everyone views the Severe Accident Management Guidelines as an enhancement to safety. And the question is, really, Should they be enforceable? My view is that they should be. The experience that we had in that period where it was a—it still is a volunteer initiative—where it was a volunteer initiative, we hadn't inspected; after Fukushima, NRC inspectors went out to plants. And for the first time in maybe 12 years, they had looked at what was the status of these voluntary SAMGs. And it was pretty troubling what they found. There were SAMGs that were outdated, hadn't been updated in years. There were emergency responders that weren't trained on the SAMGs. And as a result of that, the near-term task force after Fukushima and NRC staff both recommended making that a requirement so that it would be enforceable. I agree with that view.

Mr. PALLONE. OK. So obviously there they are still voluntary, you answered that question.

Mr. BARAN. Yes, yes.

Mr. PALLONE. Can the Commission make them mandatory? Are you moving in that direction? Do you have that power?

Mr. BARAN. We could, we are not moving in that direction. There was a recent Commission vote on a proposed rule that covered, more broadly, a number of areas that Commissioner Ostendorff referred to earlier post-Fukushima mitigation issues. So it is a larger safety rule. The staff recommended that in that proposal, we include a proposed requirement, for the first time, for Severe Accident Management Guidelines. And I supported including that as a requirement. I was the minority on that. The majority felt we should not include it. And from my point of view, that is a mistake. Everyone agrees you get a safety benefit from it, and enforceability has a lot of value. And when we had a Commission meeting on this, a public Commission meeting, I asked industry representatives, Well, is this going to be a burdensome thing to require this? The answer we got back was "Well, no, we are doing this voluntarily now." It will not be a burdensome cost, it is little or no additional cost to make it enforceable. From my point of view, when you have a substantial safety enhancement and you have something that is not burdensome, that is something we should include in a proposed rule and the public should have an opportunity to comment on that.

Mr. PALLONE. All right. Well, I appreciate that. Let me just ask one more thing. It may be the right answer. After Fukushima, was there another review of these SAMGs and has that made a dif-

ference in terms of updating the guidelines or training personnel in response to Fukushima?

Mr. BARAN. Yes, that was the review I referenced. After Fukushima, there was an inspection of the status of the SAMGs in all the plants across the country. And it was spotty, so they—every plant had SAMGs, and the overall conclusion from the staff was that they thought they would be effective. But recently, when looked at the question should they be made enforceable, we asked the staff, well, are you confident that we would have effective SAMGs at every plant of the country if we ever needed them if it remains a voluntary initiative? And the answer I got back was no, we are not confident, based on the history that they would be there when you needed them. For me, that means it should be a requirement, or we should at least propose it as a requirement and the public should have an opportunity, all stakeholders should have an opportunity to comment on it.

Mr. PALLONE. Thank you very much.

Mr. SHIMKUS. The gentleman's time has expired. The Chair recognizes the gentleman from Ohio, Mr. Latta, for 5 minutes.

Mr. LATTI. Well, thank you very much, Mr. Chairman and Chairman, Commissioners, thanks very much for being with us today. Appreciate your testimony.

And over the work period, I was at Davis-Besse, which is really a stone's throw from my district. And when I was there, I saw firsthand some of the really significant investments that have been made or are making—post Fukushima. And this mass construction taking was the emergency water feed system, where I learned about how nuclear facilities are working with the NRC to continue their safe operations. I mean, there is a lot of investment going on out there.

But if I could, Mr. Chairman, if I could start with you. If I could ask this question: It has been touched on a little bit by Chairman Whitfield. But I would like to approach a little different area. You stated that last week that the NRC and Department of Energy had a 2-day public workshop with stakeholders for options for increased efficiency from both a technical and regulatory perspective and the safe development and deployment of innovative reactor technology.

I know that Chairman Whitfield talked to you mainly on this small modular reactor. I would like to ask is more how can the Commission establish a regulatory and licensing framework for advanced technologies that reasonably assures private industry a pathway towards commercial development? And I know that you talked about, in regards to Chairman Whitfield saying that you could manage it, and also—but if you could really get into the advanced technologies and how you could get some detail in that place?

Mr. BURNS. Certainly. Again, what we tried to do with the workshop, which we jointly sponsored with the Department of Energy, was to engage those who are thinking about potentially pursuing the advanced technology. Again, what I try to say is, I think the basic “how to license” and the framework we have for licensing, that is essentially sound. Whether you use the one-step licensing, which the larger evolutionary reactors, such as the AP 1000 being

built that some are using, or you use the older two-step-type licensing.

I think a couple of things, one of the things I think the staff heard during the conference was whether there are ways of perhaps, maybe stepwise, looking at systems and basically getting to the point you are not so much issuing a license because you issued a license for the entire facility, but you get to some sort of a design approval or a stepwise process. I think that is something I think the staff wants to explore some more.

The other piece of this is, too—and this is the report I alluded to that came in from the Department of Energy at the beginning of this year to us—is to make sure that our general design criteria, also acceptance criteria for the technology, are they really in sync with what we are going to see with the new technology?

The general design criteria have been there for many years. They have served us well in terms of light-water technology, but looking at how we may need to adjust that, so we are continuing to engage with that.

Mr. LATTA. Let me follow up with that, because this is important for a lot of folks out there is that how can the NRC establish the organization be responsive to the potential applicants, but not forcing the existing licensees to fund those costs as part of the annual fee assessment?

Mr. BURNS. I think you put your finger on it in terms of we are, I think as you know, we are basically a fee agency. Ninety percent of our appropriation is recovered in fees, primarily from the industry and the operating fleet.

There are probably ways, I think this is probably a discussion with the Department of Energy in terms of whether, again, because in their role in research and development, whether there are ways in terms of providing assistance that way. I know the DOE has done some of that.

Mr. LATTA. I saw Commissioner Ostendorff, you were shaking your head on that, would you like to respond to that?

Mr. OSTENDORFF. I would agree with the Chairman's comments, I would just add that there are other technologies out there that we have not received license applications for or design certifications for, pebble bed reactors, molten salt, sodium-based cooling systems. And these are technical areas that we might have, at best, three or four people in the agency that have some knowledge of these new technologies. And as we are going forward looking at our fee-based rule requirements under law, it is very difficult for us to justify, under our current fee recovery arrangements, spending dollars for expertise that is not going to benefit an existing or likely applicant in the near term.

Mr. SHIMKUS. The gentleman's time has expired.

Mr. LATTA. My time has expired, Mr. Chairman. I yield back.

Mr. SHIMKUS. The Chair recognizes the gentleman from Texas, Mr. Green, for 5 minutes.

Mr. GREEN. Thank you, Mr. Chairman. Again, like my colleague from Texas, I wasn't happy that south Texas project didn't expand. Of course, the market conditions changed with Fukushima and Tokyo power, but I appreciate our Regulatory Commission being here today.



Chairman Burns, with regards to Yucca Mountain, the NRC safety evaluation report recommended should not authorize construction because of certain land and water issues. I have been to Yucca Mountain a couple years ago with our subcommittee, and it is in the middle of Federal land owned by DOD and DOE. Exactly what are the land and water rights requirements that the safety evaluation report references?

Mr. BURNS. The specifics, Mr. Green, unfortunately, I don't know. We can certainly provide for the record, but they would be, I think, outlined in the safety evaluation report. I presume that they have to do with State or local rights. And again, that is what the staff is identifying, they are identifying a legal constraint.

Mr. GREEN. The Federal Government doesn't own the water rights to that land?

Mr. BURNS. Again, I can't speak specifically to it. I think the State owns the water.

Mr. GREEN. I can see the water there, but I can see the—

Has the NRC determined the funding level necessary to complete the application, including adjudicatory hearing on contested issues? If so, what is the amount that would finish the application?

Mr. BURNS. Again, our estimate would be somewhere on the order of 300 to 330 million to complete the review, which would be the adjudication and the outcome of any steps that would be necessary at the outcome of the adjudication.

Mr. GREEN. Is that money available?

Mr. BURNS. It has not been appropriated to the NRC.

Mr. GREEN. If that was appropriated, how long do you think it would take for the NRC to complete proceedings, including adjudicatory?

Mr. BURNS. I don't have a firm guess. You would have to sort of reengage the participants. Again, if I am looking at what the original conception was under the Nuclear Waste Policy Act, I would imagine it is a 3- to 4-year period, but that is a guess.

Mr. SHIMKUS. Would the gentleman yield for one second? It would be helpful if the NRC would place that in their budget request so then we would get it authorized and then we would get it appropriated. I yield back.

Mr. GREEN. Thank you. Obviously I support long-term interim storage—I mean, long-term storage, now would go to interim storage.

This year the NRC received two letters of intent to file for consolidated energy storage facility, including one in Andrews County, Texas, can you outline what the NRC's current regulation for authorizing an interim storage facility?

Mr. BURNS. Yes, the regulations that we have in place, particularly that apply to that type of facility, they would be applied. And as I indicated in answering an earlier question, we actually have gone through a licensing process for a similar-type facility some years ago to private fuel storage which did not go into operation. So the basic licensing safety framework, if you will, is there.

Mr. GREEN. Under current regs, I assume a public hearing would be required?

Mr. BURNS. It is not required, but an opportunity would be noticed.

Mr. GREEN. Would the NRC request funds for fiscal year 2017 for the review of consolidated interim storage applications?

Mr. BURNS. It is not in the budget that was submitted, because basically when we got the letters of intent, that was after the budget was in the process. What we would do is, I think, we would look at our resources and reprioritize within—to the extent it would begin in 2017.

Mr. GREEN. Well—

Mr. BURNS. And if we were going on beyond—I mean, part of this is a problem of timing, in terms of the development of reviewed process of the budget was well underway before we had the applications come in, but within our resources, we would look and—

Mr. GREEN. Court decision—in light of the court decision, I would hope the NRC would move not only on long term, but also interim storage as required in the funding. First, you have to ask for it to get it. Although maybe we could do that; but, again, we are not the Appropriations Committee. But, Mr. Chairman, I know I am out of time, but it is a frustration we haven't been able to move to either interim storage or, obviously, even long-term storage. Thank you.

Mr. SHIMKUS. I thank my colleague. The Chair recognizes the gentleman from West Virginia, Mr. McKinley, for 5 minutes.

Mr. MCKINLEY. Thank you, Mr. Chairman. During the recently concluded Iranian nuclear deal, France and Russia both made offers that if the Iranian government would suspend its nuclear enrichment program, that they would provide them with reactor rods, reactor fuel, and would process the spent fuel rods. An interesting concept. Were you all approached from the NRC, the American side that said—also say whether or not that—that was an alternative to the Iranians continuing their enrichment program? Were you approached to see whether or not America would join in that?

Mr. BURNS. No, we were not.

Mr. MCKINLEY. Really? Interesting. Mr. Chairman, you also said that you went down to the nuclear facility down in Texas. I guess out of the 3,700 employees you have, probably numbers of times, are out inspecting nuclear facilities; is that correct?

Mr. BURNS. I am sorry, I couldn't hear your question.

Mr. MCKINLEY. I am assuming of the 3,700 employees or so you have or whatever that final number is today, that some of your spending time inspecting nuclear facilities; is that correct?

Mr. BURNS. That is correct. We have resident inspectors.

Mr. MCKINLEY. So my question is, what if you weren't able to do that, would you be comfortable in having the perspective utility companies just give you a report, or would you insist on doing an inspection yourself?

Mr. BURNS. No, I think we would be uncomfortable. I think inspection as well as reporting is an important part of oversight.

Mr. MCKINLEY. I would think so. So should we be uncomfortable with this agreement that the Iranians are going to provide us with their own inspection of their nuclear facilities and prevent western nations or others to come in and do this inspection? Should we be uncomfortable with that?

Mr. BURNS. I think that is something—as the NRC, we are not involved in the issues.

Mr. MCKINLEY. I can hear the music starting and the dance is starting. I want to know, you wouldn't be comfortable with it in America, so why should we be comfortable with it in Iran? And I think it is pretty simple you set forth. Thank you on that.

My last question to you is, has to do with this archaic process of burying our waste. I am an engineer, a licensed engineer, and I have problems with municipal waste, where we are burying it; we are burying batteries and motor fuel; we have the issue of carbon sequestration, we are burying that into the ground; medical wastes are being thrown into the ground; and now we have coal slurry that potentially is causing some issues.

Why are we perpetuating this idea with our spent fuel rods of having to program where we are going to bury that way. I know France is recycling their material. And everyone says it is very expensive and the French acknowledge that it is, but isn't that better than burying our material and telling our grandchildren its your problem to deal with later on?

Mr. BURNS. The question—President Reagan in the 1980s lifted the ban on reprocessing of nuclear waste at the time, but basically said it would have to be a commercial enterprise.

Mr. MCKINLEY. Is France wrong?

Mr. BURNS. I am not saying France is right or wrong, but France, in terms of the economy and its structure, is very much different than the United States.

Mr. MCKINLEY. But if we subsidized our alternative fuel so dramatically, why aren't we doing that with spent fuel rods instead of burying it and allowing the next generation to have to deal with it?

Mr. BURNS. I think that is a policy choice. It can be safely disposed of. There is a possibility of reprocessing, but it, again, that is a choice outside the purview of the NRC.

Mr. MCKINLEY. Thank you very much. I yield back my time.

Mr. SHIMKUS. The gentleman's time has expired. The word is retrievable, not buried, just to help out here.

Chair recognizes the gentleman from Vermont, Mr. Welch.

Mr. WELCH. Thank you very much. I am delighted to be here with the Commission. As you may know, I represent the State of Vermont, and this is my opportunity on behalf of the Vermonters I represent to talk about a couple of issues related to the decommissioning of Vermont Yankee, an Entergy plant.

A little bit of background, as I understand it, this is the first merchant plant that is going through the decommissioning process. It is long, involved, expensive, and, obviously, very consequential to Vermont. It is going to cost, by current estimates, \$1.42 billion. And that is going to take decades to be accomplished.

But there are two recurring issues that I think it is timely to discuss with you, not just because of the implications they have for Vermont, but for this process going forward of decommissioning plants. It is new and you are going to have to make some critical decisions.

The two issues that have emerged in Vermont are one, public participation and how extensive will that be or how limited will it be.

And then second, are the decisions that your Commission must make about the use of the decommissioning fund. There is an inherent conflict, to some extent, between the merchant generator, in this case, Entergy, which want to put as many costs on that as possible, and the community that wants strict limitations related to managing the radioactive contamination situation.

Just a couple of things, and on the question of local community involvement, the nuclear industry is involved through the NEI, as you know. And recently, the Commission had a teleconference that lasted several hours, about 2 ½ hours were devoted to hearing from NEI, which was essentially Entergy, and only 20 minutes for the Vermont Public Service Department. We have got a Governor who is very engaged from our public service department, very engaged. And, of course, this community in southern Vermont, it is critical what is going to happen.

So the question I have for you, I want to finish with my statement here, is how extensive are you going to allow legitimate public representatives to have a seat at the table? Right now, it appears to be almost limited to the public comment period, and I am sure you read the comments and take those into account, but when there is actual discussion having our attorney general, or public service department that is appointed by our Governor, and certainly community representatives from the southern Vermont area, is really consequential to considering the decision—getting evidence for the decisions you are going to make.

Second, the decommissioning fund, how is that Trust Fund going to be used? Among the positions advocated by Entergy was to allow for spent fuel management and to store this in dry caps. They are also asking for attorney fees to be paid, membership dues at NEI. And our view is that this should be strictly tied to the purposes that are allowed by the statute.

So the two things, as I mentioned, that we are really seeking in Vermont is one, a seat at the table for legitimate representatives of the community and the State through the public service department. And number two, strict monitoring and limited uses of that decommissioning fund itself.

And then, finally, this whole question of SAFESTOR, which will have a 59-year lifespan minimum, means that site restoration is going to be postponed literally for generations, and there is a real big question as to whether or not we should try to proceed with decommissioning sooner rather than later, in 5 years rather than 60 years.

So that is my opportunity to speak to you on something that is an enormous concern to our Governor down to the select boards in the region of southern Vermont where Entergy is exposed.

So, Mr. Commissioner, I will start with you. Thank you all for your service. What can you tell me that I can tell my Governor and my select boards about their ability to have a seat at the table in an ongoing way as this decommissioning unfolds?

Mr. SHIMKUS. And you have 5 seconds to do that. No, no, no.

Mr. WELCH. Thank you.

Mr. BURNS. Thank you for the question. What the NRC tries to do is ensure through part of its oversight program that there are opportunities for public engagement, public information and the

like. There are, for example, I believe the attorney general has sought to intervene or raise contention in proceedings, one of our proceedings, I think, actually related to some of the decommissioning funding issues. So that is a more formal opportunity to participate, and that is a real opportunity to the extent there are issues that are within the scope of the particular action under consideration, the amendment, license or the like. Those are, I think, real opportunities to participate.

With respect to SAFESTOR, our regulations allow for different options on for decommissioning, and that includes SAFESTOR, which is a longer period, in effect, into, if you will, stabilization of the facility until ultimate decommissioning occurs.

From the NRC standpoint and the safety standpoint, we believe that that is a safe and legitimate way to go. Whether other means, for example, more immediate decommissioning, occurs is probably more a matter of the dialogue between the State and the company itself, because we have found that SAFESTORs is legitimate.

Mr. WELCH. Well, legitimate, but you understand there is a huge price that the community pays for that. You basically have this very important facility and location, in this case, along the banks of the Connecticut River, that essentially cannot be used or developed, and there is an enormous economic impact on the community when it loses the jobs that is associated with a nuclear plant; that is something they will have to contend with.

And the aspect of your answer that is of some concern to me, is yes, you come to the conclusion that that is safe, but the question I am asking is, Are there other safe ways to do this that don't impose such an ongoing burden on the community where they can't use this resource and redevelop it?

Mr. SHIMKUS. The gentleman's time is close—I mean, way over, but if the Chairman would respond.

Mr. BURNS. Essentially, the options are primarily SAFESTOR or going to a more immediate decommissioning and——

Mr. WELCH. Right.

Mr. BURNS. But again, the NRC, because it has found either of those options to be a safe option, we don't compel one versus the other.

Mr. SHIMKUS. The Chair——

Mr. WELCH. Thank you very much, Mr. Chairman. The reason I do——

Mr. SHIMKUS. No. It is very important to you, I know.

Mr. WELCH. This is going to face all of us who have any kind of nuclear facility, and having a legitimate way for the community to be heard through their Representatives, I think, is absolutely essential to the decommissioning process.

Mr. SHIMKUS. Yes.

Mr. BARAN. Mr. Chairman, could I take just 10 seconds to add one more thing?

Mr. SHIMKUS. If you take 10 seconds. I got my colleagues who have been waiting patiently.

Mr. BARAN. I just want to make sure that Mr. Welch knows we now have initiated a rulemaking to take a fresh look at a number of these issues, including what is the appropriate role for State and local governments and the public, when—is the current level public

participation adequate; and also, looking at this question of right now there are these three options generally for decommissioning, including SAFSTOR. Is that appropriate or is that something we should reconsider? We are going to have an advanced notice of proposed rulemaking, looking at those and other decommissioning issues.

Mr. WELCH. Thank you.

Mr. SHIMKUS. Thank you.

The Chair now recognizes the gentleman from Texas, Mr. Flores, for 5 minutes.

Mr. FLORES. Thank you, Mr. Chair. Do I get 8 ½ minutes too?

Mr. SHIMKUS. Maybe 9 if you are nice.

Mr. FLORES. I am just teasing.

I want to thank the Commissioners for joining us today. I have got a slide I would like to have up on the screen if we could, please.

While the slide is coming up, I wanted to talk about macro issues, and this is the overall size and efficiency of the NRC. Look, I am a pro-nuclear person. I think it is the ultimate green fuel. It is the path forward for a low-carbon future, particularly when it comes to the generation of baseload electric power. But I have been somewhat concerned about the expansive growth of the NRC to fit what we thought was going to be a growth in nuclear generated electrical facilities, but it hasn't materialized. But nonetheless, the agency continued to grow. Hopefully this graphic will make it up pretty quickly.

And so the growth that materialized because of market conditions, natural gas got very competitive in terms of generation capability, and there was some change in the regulatory environment that I think had an impact.

[Chart follows.]

Nuclear Regulatory Commission

RUNAWAY REGULATORY GROWTH

	2005	2016	% Change
NUMBER OF REACTORS	104	100	-4% ↓
LICENSING ACTIONS	1,500	900	-40% ↓
TOTAL EMPLOYEES	3,108	3,754	+21% ↑
TOTAL BUDGET	\$669,000,000	\$1,032,000,000	+54% ↑

Mr. FLORES. If you look at this chart, you will see that the number of reactors and the number of licensing actions in 2005 is about 1,600, different metrics that the agency, the Commission, was dealing with. Today there are, you said, 99. In 2016, I think there is going to be another one coming online. So you will have 100. And then we are down to 900 licensing actions.

So the total drop in activity for the NRC is around 38 percent on a weighted average basis. But, the head count has grown by 21 percent over that time period. And the budget has grown by a whopping 54 percent. So, I mean, this squarely fits with what Reagan used to talk about when he talked about how the only thing that continues to—that have eternal life and to continue growing is a Federal agency.

So my questions are this, and also some of the things I saw when you provided the document that is called the NRC Fiscal Year 2016 High-Level Impacts in Further Reduction, the Commission talked about these dire things that would happen for just a 3 percent cut in its budget, or 4- or 5 percent cut in its budget, and I was surprised. Was this document approved by the full Commission before it was sent to this committee? Chairman Burns, we will start with you.

Mr. BURNS. The document—again, I am sorry—

Mr. FLORES. The document was entitled “NRC FY 2016 High-Level Impacts in Further Reduction.” And what it says, it purports to describe anticipated reductions in NRC activities with staffing at various levels of funding reductions. For example, the document claims that a reduction of \$30 million, or just 3 percent of the NRC’s current budget, and a reduction of 140 full-time equivalents, which, again, has grown by 21 percent over the last 10 years, would result in a long list of severe impacts, including a reductions by 25 percent in NRC investigations of alleged criminal wrongdoing and termination of the program to supply potassium iodide tablets. So are you familiar with that document?

Mr. BURNS. Yes. And I think we provide—we developed that document, or staff developed that document, to give a picture of the impacts of budget levels at different levels.

And, again, I think what—as we have tried to discuss here this morning through Project AIM, through our processes of planning and forecasting out, we are trying—we are taking steps to be more efficient. We see a longer term, a smaller NRC, that talks about 3,754 FTE. The Commission has put as a control point at the end of 2016, to be at 3,600 employees.

Mr. FLORES. Correct.

Mr. BURNS. So those—I think those are responsible, again, responsible steps. What I want to say, too, is we are looking at that in terms of, I think the priority of some of the work we need to get done. And some of that is working off, for example, licensing backload. And I think our staff has gone a great job doing that. So I think we are trying and taking the steps to be a responsible regulator recognizing the changed environment we are in, and we recognize we are going to be smaller in the long term.

Mr. FLORES. OK. Well, I mean. OK. Well, let me give you one example that says “The new reactor’s office is budgeted to review 14 applications, and is likely to have nine at most.” And so it looks



like that the Commission is over budgeted in just that one area by \$30 million for work that really won't happen in 2016. So that is money that could be used somewhere else to help catch up and not cause all the dire consequences for a 3 percent cut in the budget.

I have other questions, but I will submit those for the record in the interest of time. Again, I thank you for being here. Look, I want to reiterate. I am a pro-nuclear person, but we can't have this kind of unregulated growth when the market is saying: Hey, we are not there anymore. So thank you.

Mr. SHIMKUS. I want to thank my colleague, and appreciate his focus.

I would now like to turn to the gentleman from Ohio, Mr. Johnson. But before I do so, he spent his summer being an Undercover Boss. So I hope the NRC will not allow him to be an undercover boss in a nuclear control room.

Mr. JOHNSON. That was on my list.

Mr. SHIMKUS. Yes. I hope not.

Mr. JOHNSON. I wouldn't want to be. I wouldn't want to be. Trust me.

Well, thank you folks for being with us today. Very, very important things we are discussing.

You know, on August 27 of this year, the Commission released the voting record on mitigating strategies for severe accident scenarios. A majority of the Commission voted to exclude Severe Accident Management Guidelines, or SAMG, S-A-M-G, from NRC requirements primarily because SAMGs are not necessary for adequate protection and converting these voluntary industry efforts to a mandatory requirement supported by the kind of quantitative cost-benefit analysis mandated by the back-fit rule.

Commissioner Ostendorff, in your vote on mitigation strategies, you expressed surprise that the staff decided to include new reactor design requirements as part of their proposal. Your vote explained that, and I quote, "This provision should have been raised to the Commission as a separate matter in advance of the draft proposed rulemaking package," unquote. There were also significant concerns with the staff's reliance on various qualitative factors.

So here is the question: Is there a tendency within the staff ranks to, perhaps, engage in mission creep, to take on activities or make proposals that are beyond the scope of the task that the Commission has assigned the staff? And how does the Commission guard against that tendency?

Mr. OSTENDORFF. Thank you for the question. I personally believed in the context of this vote that the staff proposal to the Commission for a new reactor piece was outside the scope of what the Commission had previously directed. I would say that that is not a routine occurrence. It has happened just on a rare occasion, but, in this case, I disagree with what the staff did and I—I don't want to say I called them out on the vote, but I said I did not agree with how the staff approached it in this vote.

Mr. JOHNSON. OK.

Mr. OSTENDORFF. So this is not a—this is not a routine type occurrence by the staff. I would say it is rarely done. At the same time, we also want to foster an atmosphere at the NRC where the

staff feels free to raise their best ideas, recognizing at the end of the day the Commission will make a decision.

Mr. JOHNSON. Sure.

Mr. OSTENDORFF. That is what we did.

Mr. JOHNSON. I get that. I get that, that this may have been an outlier. But what is the proper role of the Commission in overseeing and directed the work of the NRC staff? Do you think this kind of thing could be prevented?

Mr. OSTENDORFF. In this particular case, and, again, I think it is a little bit of an anomaly, Congressman, the Commission provides direction via what we call staff requirements memorandum that represent a majority view of the Commission that provides written direction to the staff. I think that process works very, very well. And I would say, by and large, our staff has been very diligent in complying with the staff requirement memorandums from the Commission. From time to time, there may be a difference of opinion. We don't want to squelch these other ideas, recognizing at the end of the day, the decision rests with the four of us at this table.

Mr. JOHNSON. OK. The NRC folks has a long list of rulemakings in various stages of development. Will the Commission review all ongoing activities to prioritize and eliminate rulemakings with no safety-significant benefit as a part of the Project AIM baselining? Any of you?

Mr. BURNS. We look at the rulemaking, and in terms of our development process, but one of the—I think we will be looking at in terms of the re-baselining, and there is also what we call an add/shed process. You know, if you are going to add new things in, what—how it helps in terms of priorities. So we will be looking at that, I think, as part of that process. What we are getting from the staff is a proposal for how to do the re-baselining and which would—the Commission will act on.

Mr. JOHNSON. OK. A 2014 Government Accountability Office report found the NRC had an average annual attrition rate of 5.4 percent between 2004 and 2012. This equates to nearly 200 NRC staff leaving the organization each year. However, Project AIM has a target of 3,600 staff for fiscal year 2016, a reduction of less than 100 from current staffing levels, and has suggested that only a slow and modest workforce reduction is achievable. So how is the Commission encouraging NRC staff to provide ambitious and achievable recommendations?

Mr. BURNS. With respect to attrition, it is not always where you want it or necessarily want it to be. For example, if you have in one area—you know, one of our, I think, challenges is in the administrative area, but not all those who decide to go to another job or retire go that way. So what we are trying to do is smartly focus that. We are looking at early outs and buy-outs using those authorities in consultation with the Office of Personnel Management. But, again, the Commission set this sort of a target point at 3,600 for the end of fiscal year 2016. And, again, we hope we smartly can do that.

Part of it is, too, is when you get some of that attrition, for example, if you have resident inspectors or inspectors attrited, those are things you want to replace to keep, you know, the key oversight as-

pects available. So it is not as easy sometimes as just the pure drift down from the 5 or 5.4 percent.

Mr. JOHNSON. OK. All right. Mr. Chairman, I yield back.

Mr. SHIMKUS. The gentleman's time is expired.

The Chair now recognizes the gentleman from Illinois, Mr. Kinzinger, for 5 minutes.

Mr. KINZINGER. Well, thank you, Mr. Chairman. And thank you all for being here and the service that you do. Really appreciate it.

You know, given that efficiency is one of the NRC's core values regarding the principles of good regulation on its Web site, one of which states that the American taxpayer, the rate-paying consumer, and license fees are all entitled to the best possible management and administration of regulatory activities. I have a few questions regarding the budget and rulemaking process at the Commission as things currently stand.

As a fee-based agency, your Commission is statutorily required to recover 90 percent of your budget through the annual collection of fees from licensees. And referring back to the value of efficiency as one of the NRC's principles of good regulation, it is pretty obvious that the need for an established credible process for developing a budget based on workload projections is necessary to determine responsible fee assessments. Unfortunately, the lack of an effective budget development process has long been an issue. In 2013, the NRC Inspector General found that the Commission had an incomplete implementation of planning, budgeting, and performance management process, and noted that the budget formulation and execution process are not actually aligned.

Today, the lack of an effective budget development process is something that is still outstanding, which is why I raise this issue of particular concern through a letter to the GAO. In that letter is a request for the GAO to study and make recommendations on how best to improve the budget process for the NRC.

Mr. Chairman, what is the status of the Commission's implementation of a new budget process?

Mr. BURNS. I believe a revised management directive, if it has not been issued, is pending. And I think it was created to address that aspect of—

Mr. KINZINGER. So it is done? It is fixed?

Mr. BURNS. I need to just consult with our CFO just to confirm, but I believe that was a process underway. Whether that revised management directive has been issued, I am just not sure. Be happy to provide that—

Mr. KINZINGER. Any other—go ahead.

Ms. SVINICKI. Under standing Commission direction, the revision to this budget process will have to be a vote of our Commission. Although I believe the chairman is probably reflecting the fact that the staff has prepared something for our consideration, it has not been submitted to us yet.

Mr. OSTENDORFF. I would just say, Congressman, that we agree that there are some areas of needed improvement in the budget process. Maureen Wylie is our new chief financial officer who was brought into the agency from elsewhere in the Federal Government. We are very confident, under her leadership, we will be able to move forward and make these improvements.

Mr. KINZINGER. So you all think by 2017 this is going to be the case? We are going to be in good shape on the budget process?

Mr. BURNS. I couldn't—

Mr. KINZINGER. By 2017 we are going to be good? Hopefully?

Mr. BURNS. I think we will be.

Mr. KINZINGER. OK. Good.

Mr. BURNS. I am confident.

Mr. KINZINGER. I like to hear that. The NRC last updated its management directive governing the long-range planning budget formulation and resource management in 1989. Since that time, the organization has seen significant changes, both internally and with industry. NRC's inability to update this directive resulted in an inefficient process that complicates the overall effectiveness of the organization. Do you have any idea when the Commission will finalize updating its management directive?

Mr. BURNS. This is the one I was referring to, and Commissioner Svinicki reminded me, too, needs to come to the Commission. Again, the timing—we expect by the end of the year. That would be the objective, by the end of the year.

Mr. KINZINGER. OK. And so I guess more generally, how can the Commission ensure that it is responsible to the—or responsive to the changing environment of the nuclear regulatory industry?

Mr. BURNS. Well, I would let others speak as well, but I think part of it is us listening, engaging with industry, other stakeholders. Some of what I think we have described here today in terms of thinking in the future in terms of are we going to get new types of applications, being open and hearing what people are thinking, what is on the minds of the industry. I think being responsive in things like the cumulative effects of regulation, that is, again, a way of us, I think, getting better doing our work in a more effective way and still focusing on what, at the end of the day, is our core mission: safety and security.

Mr. KINZINGER. Good. Well, I appreciate, again, all your work. I have four nuclear power plants in my district. So this is very important to ensure that, you know, these are successful. They provide a lot of power for Illinois, lot of power for my district, and good-paying jobs. So we appreciate the security and safety, but we also appreciate you doing it without unnecessary burden on these fantastic power plants. So with that, I will yield back. Thank you.

Mr. SHIMKUS. The gentleman yields back his time. And one of the questions I was going to ask, but I am not, I am just going to make a statement, is that when plants get decommissioned, if we don't look at adjusting the rate to pay for the process, the burden can get so high then you may have unintended consequences. So that is part of the budgetary questions I think my colleagues were trying to point to.

But I want to thank you, right off of our break to be able to be in here, sit through two subcommittees for as long as you have. We appreciate the work you do. We appreciate the responses you provide to us, and also the work you do for this country.

I want to remind you all that the hearing record will remain open for 10 business days. You may receive additional questions submitted for the record. We would ask you respond to any of those questions in 10 business days.

And with that, seeing no other members, I will call this hearing adjourned.

[Whereupon, at 12:09 p.m., the subcommittees were adjourned.]  
[Material submitted for inclusion in the record follows:]

#### PREPARED STATEMENT OF HON. FRED UPTON

Today we continue our oversight of the Nuclear Regulatory Commission and thank the Commissioners for joining us today. I would especially like to welcome Chairman Burns and Commissioner Baran on their first appearance with us since being confirmed a year ago.

Clean, safe nuclear energy is, and will continue to be, a vital component of our diverse energy portfolio. Currently, 99 operating nuclear power plants generate approximately 20 percent of the electricity we consume. In 2016, the first new nuclear power plant in a generation is expected to begin operations in Tennessee, while four more reactors continue to make significant construction progress in Georgia and South Carolina.

Just last week I visited the Cook Plant with my friend and former colleague, West Virginia Senator Shelley Moore Capito. Cook is one of the two nuclear power sites along the shoreline of Lake Michigan in my district. During our tour, we saw firsthand the safety and emergency preparedness upgrades that have taken place over the last 4 years as a result of the Commission's response to the Fukushima accident in Japan. NRC's "lessons learned" process was a beneficial reexamination of the United States' nuclear fleet and identified improvements in safety and performance.

While the Commission resolves the remaining safety significant post-Fukushima priorities, I encourage the NRC to next address issues and take action to increase the efficiency of the organization. Like all Government agencies, the NRC has a responsibility to be a good steward of taxpayer resources, be responsive in a transparent and timely manner to its licensees, and adhere to its organizational principles to execute its mission. An NRC well positioned for the 21st century will help ensure nuclear continues to help power the United States for generations to come.

FRED UPTON, MICHIGAN  
CHAIRMAN

FRANK PALLONE, JR., NEW JERSEY  
RANKING MEMBER

ONE HUNDRED FOURTEENTH CONGRESS  
**Congress of the United States**  
**House of Representatives**

COMMITTEE ON ENERGY AND COMMERCE

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October 5, 2015

The Honorable Stephen G. Burns  
Chairman  
U.S. Nuclear Regulatory Commission  
11555 Rockville Pike  
Rockville, MD 20852

Dear Mr. Burns:

Thank you for appearing before the Subcommittee on Environment and the Economy on Wednesday, September 9, 2015, to testify at the hearing entitled "Oversight of the Nuclear Regulatory Commission."

Pursuant to the Rules of the Committee on Energy and Commerce, the hearing record remains open for ten business days to permit Members to submit additional questions for the record, which are attached. The format of your responses to these questions should be as follows: (1) the name of the Member whose question you are addressing, (2) the complete text of the question you are addressing in bold, and (3) your answer to that question in plain text.

To facilitate the printing of the hearing record, please respond to these questions with a transmittal letter by the close of business on Monday, October 19, 2015. Your responses should be mailed to Will Batson, Legislative Clerk, Committee on Energy and Commerce, 2125 Rayburn House Office Building, Washington, DC 20515 and e-mailed to [Will.Batson@mail.house.gov](mailto:Will.Batson@mail.house.gov).

Thank you again for your time and effort preparing and delivering testimony before the Subcommittee.

Sincerely,



John Shimkus  
Chairman  
Subcommittee on Environment and the Economy

cc: The Honorable Paul Tonko, Ranking Member, Subcommittee on Environment and the Economy

Attachment

[Mr. Burns' response to submitted questions for the record has been retained in committee files and also is available at <http://docs.house.gov/meetings/IF/IF18/20150909/103923/HMTG-114-IF18-Wstate-BurnsS-20150909-SD057.pdf>.]